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(CS) field  
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U.S. patents  
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CAS REGISTRY  
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thesaurus  
NEWS 8 OCT 21 Derwent World Patents Index Coverage of Indian and  
Taiwanese Content Expanded  
NEWS 9 OCT 21 Derwent World Patents Index enhanced with human  
translated claims for Chinese Applications and  
Utility Models  
NEWS 10 NOV 23 Addition of SCAN format to selected STN databases  
NEWS 11 NOV 23 Annual Reload of IFI Databases  
NEWS 12 DEC 01 FRFULL Content and Search Enhancements  
NEWS 13 DEC 01 DGENE, USGENE, and PCTGEN: new percent identity  
feature for sorting BLAST answer sets

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\* \* \* \* \* STN Columbus \* \* \* \* \*

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0.22

0.22

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FILE COVERS 1907 - 1 Dec 2009 VOL 151 ISS 23

FILE LAST UPDATED: 30 Nov 2009 (20091130/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

Caplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s jp58048048/pn

L1 1 JP58048048/PN

=> d all

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1983:430757 CAPLUS

DN 99:30757

OREF 99:4755a,4758a

ED Entered STN: 12 May 1984

TI Far UV-resist materials

PA Matsushita Electric Industrial Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

10551130

LA Japanese  
 IC G03C001-72  
 ICA C08F002-48; H01L021-30  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58048048	A	19830319	JP 1981-147597	19810917
<--	JP 63049211	B	19881004		
PRAI	JP 1981-147597		19810917		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 58048048	IC	G03C001-72
	ICA	C08F002-48; H01L021-30
	IPCI	G03C0001-72 [ICM]; C08F0002-48 [ICA]; C08F0002-46 [ICA,C*]; H01L0021-30 [ICA]; H01L0021-02 [ICA,C*]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]; C08F0020-00 [I,C*]; C08F0020-00 [I,A]; C08F0020-32 [I,A]; G03F0007-039 [I,C*]; G03F0007-039 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]
	ECLA	G03F007/039

AB Copolymers of 70-50 mol% benzyl methacrylate (I) and 3-50 mol% glycidyl methacrylate (II) are used for photoresist material to expose with far UV.

The copolymers give highly sensitive and dry etchable pos.-working resist for microlithog. Thus, I 30, II 20, and azobisisobutylnitril 0.09 part were dissolved in benzene and heated 6 h at 90° to give a copolymer whose weight-average mol. weight was 290,000. A 10% solution of the copolymer was spin-coated on a Si wafer and the surface of which was oxidized by baking to form a resist layer of 1 µm thickness. The wafer was prebaked at 120° for 30 min, exposed with far UV for 30 min and developed with Me iso-Bu ketone. The exposed resist was sputter-etched in CF<sub>4</sub> gas of

0.1 torr for 3 min at the power of 4.5 W/cm<sup>2</sup>. The reduced thickness of the resist layer after etching was 3200 Å, and the resist layer showed good resistance to dry etching.

ST photoresist UV sensitive pos working; benzyl methacrylate copolymer photoresist; glycidyl methacrylate copolymer photoresist

IT Resists  
 (photo-, pos.-working, UV-sensitive, benzyl methacrylate-glycidyl methacrylate copolymers as)

IT 86249-19-6

RL: USES (Uses)

(photoresist, UV-sensitive, pos.-working)

=> FIL REGISTRY

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

6.62

6.84

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.82	-0.82

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STRUCTURE FILE UPDATES: 30 NOV 2009 HIGHEST RN 1194522-11-6  
DICTIONARY FILE UPDATES: 30 NOV 2009 HIGHEST RN 1194522-11-6

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TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> S 86249-19-6/RN

L2 1 86249-19-6/RN

=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND  
SET COMMAND COMPLETED

=> D L2 SQIDE 1-

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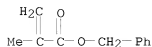
L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN  
RN 86249-19-6 REGISTRY  
CN 2-Propenoic acid, 2-methyl-, 2-oxiranylmethyl ester, polymer with phenylmethyl 2-methyl-2-propenoate (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, polymer with phenylmethyl 2-methyl-2-propenoate (9CI)  
CN 2-Propenoic acid, 2-methyl-, phenylmethyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate (9CI)  
OTHER NAMES:

10551130

CN Benzyl methacrylate-glycidyl methacrylate copolymer  
MF (C11 H12 O2 . C7 H10 O3)x  
CI PMS, COM  
PCT Polyacrylic  
LC STN Files: CA, CAPLUS, USPAT2, USPATFULL  
DT.CA Capius document type: Conference; Patent  
RL.P Roles from patents: PREP (Preparation); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses)  
RLD.P Roles for non-specific derivatives from patents: PREP (Preparation);  
USES (Uses)  
RL.NP Roles from non-patents: PRP (Properties); USES (Uses)

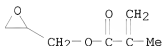
CM 1

CRN 2495-37-6  
CMF C11 H12 O2



CM 2

CRN 106-91-2  
CMF C7 H10 O3



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

16 REFERENCES IN FILE CA (1907 TO DATE)  
5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
16 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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NOTICE SET TO OFF FOR DISPLAY COMMAND  
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COST IN U.S. DOLLARS

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ENTRY	SESSION
2.53	9.37

FULL ESTIMATED COST

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.82

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FILE COVERS 1907 - 1 Dec 2009 VOL 151 ISS 23  
FILE LAST UPDATED: 30 Nov 2009 (20091130/ED)  
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009  
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

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=> d his

(FILE 'HOME' ENTERED AT 16:42:14 ON 01 DEC 2009)

L1 FILE 'CAPLUS' ENTERED AT 16:42:28 ON 01 DEC 2009  
1 S JP58048048/PN

L2 FILE 'REGISTRY' ENTERED AT 16:43:24 ON 01 DEC 2009  
1 S 86249-19-6/RN  
SET NOTICE 1 DISPLAY  
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FILE 'CAPLUS' ENTERED AT 16:43:41 ON 01 DEC 2009

=> s l2

L3 16 L2

=> s l3 not l1

L4 15 L3 NOT L1

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=> d all1-15  
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ABS ----- GI and AB  
ALL ----- BIB, AB, IND, RE  
APPS ----- AI, PRAI  
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CBIB ----- AN, plus Compressed Bibliographic Data  
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SAM ----- CC, SX, TI, ST, IT  
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SIBIB ----- IBIB, no citations  
  
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=> d all 1-15

L4 ANSWER 1 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
AN 2009:1200918 CAPLUS  
DN 151:436915  
ED Entered STN: 02 Oct 2009  
TI Positive photosensitive resin composition and method of forming cured film

from the same  
IN Takita, Satoshi  
PA Fujifilm Corporation, Japan  
SO PCT Int. Appl., 64pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2009119878	A1	20091001	WO 2009-JP56555	20090330
	W:	AE, AG, AL, AM, AO, AI, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
	RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LI, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	JP 2009258722	A	20091105	JP 2009-82005	20090330
	JP 2009258723	A	20091105	JP 2009-82006	20090330
PRAI	JP 2008-88537	A	20080328		
	JP 2008-88540	A	20080328		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2009119878	IPC1	G03F0007-039 [I,A]; C08F0020-28 [I,A]; C08F0020-42 [I,A]; C08F0020-00 [I,C*]; G03F0007-004 [I,A]; G03F0007-40 [I,A]; H01L0021-027 [I,A]; H01L0021-02 [I,C*]



IPCR G03F0007-039 [I,C]; G03F0007-039 [I,A]; C08F0020-00 [I,C]; C08F0020-28 [I,A]; C08F0020-42 [I,A]; G03F0007-004 [I,C]; G03F0007-004 [I,A]; G03F0007-40 [I,C]; G03F0007-40 [I,A]; H01L0021-02 [I,C]; H01L0021-027 [I,A]

JP 2009258722 IPCI G03F0007-039 [I,A]; G03F0007-004 [I,A]; G03F0007-075 [I,A]; G03F0007-40 [I,A]; H01L0021-027 [I,A]; H01L0021-02 [I,C\*]; C08G0059-68 [I,A]; C08G0059-00 [I,C\*]; C08F0020-26 [I,A]; C08F0020-00 [I,C\*]

FTERM 2H025/AA01; 2H025/AA04; 2H025/AA10; 2H025/AA11; 2H025/AA14; 2H025/AB14; 2H025/AB16; 2H025/AB17; 2H025/AC01; 2H025/AD03; 2H025/BE00; 2H025/BF02; 2H025/BG00; 2H025/CB13; 2H025/CB14; 2H025/CB41; 2H025/CC04; 2H025/CC06; 2H025/CC17; 2H025/CC20; 2H025/FA17; 2H025/FA29; 2H025/FA30; 2H096/AA25; 2H096/AA27; 2H096/AA28; 2H096/BA11; 2H096/EA02; 2H096/GA09; 2H096/HA01; 2H096/HA03; 4J036/AD08; 4J036/AF06; 4J036/AF08; 4J036/AJ08; 4J036/AK08; 4J036/AK11; 4J036/DA10; 4J036/FB03; 4J036/GA26; 4J036/HA01; 4J036/JA09; 4J100/AL08P; 4J100/BA04P; 4J100/BA05P; 4J100/BA06P; 4J100/BB01P; 4J100/BC04P; 4J100/BC43P; 4J100/CA05; 4J100/DA01; 4J100/DA04; 4J100/JA38

JP 2009258723 IPCI G03F0007-039 [I,A]; G03F0007-004 [I,A]; G03F0007-075 [I,A]; G03F0007-40 [I,A]; H01L0021-027 [I,A]; H01L0021-02 [I,C\*]; C08F0220-26 [I,A]; C08F0220-00 [I,C\*]

FTERM 2H025/AA01; 2H025/AA04; 2H025/AA10; 2H025/AA11; 2H025/AA14; 2H025/AB14; 2H025/AB16; 2H025/AB17; 2H025/AC01; 2H025/AD03; 2H025/BE00; 2H025/BF02; 2H025/BG00; 2H025/CC04; 2H025/CC06; 2H025/CC17; 2H025/CC20; 2H025/FA17; 2H025/FA29; 2H025/FA30; 2H096/AA25; 2H096/AA27; 2H096/AA28; 2H096/BA11; 2H096/EA02; 2H096/GA09; 2H096/HA01; 2H096/HA03; 4J100/AB07Q; 4J100/AL08P; 4J100/AL08Q; 4J100/AL08R; 4J100/AL09R; 4J100/AL10Q; 4J100/BA02P; 4J100/BA02Q; 4J100/BC04P; 4J100/BC43P; 4J100/BC43Q; 4J100/BC43R; 4J100/BC54Q; 4J100/CA03; 4J100/CA04; 4J100/CA05; 4J100/JA37

OS MARPAT 151:436915

AB The invention relates to a pos. photosensitive resin composition characterized

by comprising: a resin which has a specific acrylic-acid-type structural unit generating a carboxy group upon dissociation of a dissociable group, is alkali-insol. or sparingly alkali-soluble, and becomes alkali-soluble upon dissociation of the acid-dissociable group; a resin containing a structural unit derived from an epoxidized radical-polymerizable monomer; a compound having two or more epoxy groups per mol. (provided that the resin containing a structural unit derived from an epoxidized radical-polymerizable monomer is excluded); and a compound which generates an acid upon irradiation with

actinic rays having a wavelength of 300 nm or longer. Also provided is a method of forming a cured film such as smoothing layers, protective layers, interlayer-insulating layers, etc. from the composition

ST pos photosensitive resin cured film

IT Positive photoresists  
(permanent pos. photoresist; pos. photosensitive resin composition and method of forming cured film from the same)

IT Photoimaging materials  
Semiconductor device fabrication  
(pos. photosensitive resin composition and method of forming cured film from the same)

IT Polymers  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos. photosensitive resin composition and method of forming cured film from the same)

IT 204993-57-7, CGI 725  
RL: TEM (Technical or engineered material use); USES (Uses)  
(CGI 725; pos. photosensitive resin composition and method of forming cured film from the same)

IT 852246-54-9, Irgacure PAG 108  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Irgacure PAG 108; pos. photosensitive resin composition and method of forming cured film from the same)

IT 86249-19-6P, Glycidyl methacrylate-benzyl methacrylate copolymer  
155161-74-3P, Glycidyl methacrylate-benzyl methacrylate-methacrylic acid copolymer 293735-10-1P, (3,4-Epoxy cyclohexyl)methyl methacrylate-benzyl methacrylate-methacrylic acid copolymer 1138028-34-6P, 1-Butoxyethyl methacrylate-benzyl methacrylate-methacrylic acid copolymer 1138028-35-9P, Ethanol, 1-(benzyloxy)-, methacrylate-2-hydroxyethyl methacrylate copolymer 1138028-36-0P, 1-Ethoxyethyl methacrylate-benzyl methacrylate-2-hydroxyethyl methacrylate copolymer 1138028-37-1P, 1-Ethoxyethyl methacrylate-benzyl methacrylate-methacrylic acid copolymer 1138028-38-2P, 1-Cyclohexyloxyethyl methacrylate-p-methoxystyrene copolymer 1138028-39-3P, Tetrahydropyranyl methacrylate-p-acetoxystyrene-2-hydroxyethyl methacrylate copolymer 1138028-40-6P, Glycidyl acrylate-2-hydroxyethyl methacrylate-p-acetoxystyrene copolymer 1138028-41-7P, Glycidyl p-vinylphenyl ether-1-ethoxyethyl methacrylate-p-acetoxystyrene copolymer 1138028-42-8P, Glycidyl methacrylate-1-ethoxyethyl methacrylate-2-hydroxyethyl methacrylate copolymer 1138028-43-9P, Glycidyl methacrylate-1-ethoxyethyl methacrylate-2-hydroxyethyl methacrylate-benzyl methacrylate copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(pos. photosensitive resin composition and method of forming cured film from the same)

IT 25068-38-6, JER 834 138361-24-7, Epikote 157S70 219651-50-0, CGI 1380 852246-52-7, Irgacure PAG121 955090-22-9, JER 1001 1042720-07-9, Irgacure PAG 103 1058132-49-2, JER 154  
RL: TEM (Technical or engineered material use); USES (Uses)

(pos. photosensitive resin composition and method of forming cured film from the same)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE CITED REFERENCES

- (1) E I Du Pont de Nemours & Co; JP 05-506731 A 1993
- (2) E I Du Pont de Nemours & Co; WO 1991015808 A1 1993
- (3) E I Du Pont de Nemours & Co; US 5120633 A 1993 CAPLUS
- (4) E I Du Pont de Nemours & Co; EP 524250 A 1993 CAPLUS
- (5) E I Du Pont de Nemours & Co; US 5262281 A 1993 CAPLUS
- (6) Fujifilm Corp; WO 2008149947 A1 2008 CAPLUS
- (7) Fujifilm Corp; WO 2009041619 A1 2009 CAPLUS
- (8) JSR Corp; KR 1020040078554 A 2004
- (9) JSR Corp; JP 2004264623 A 2004 CAPLUS
- (10) JSR Corp; TW 266889 B 2004 CAPLUS
- (11) Kyowa Hakko Chemical Co Ltd; JP 2006251296 A 2006 CAPLUS
- (12) Shin-Etsu Chemical Co Ltd; KR 1020070119523 A 2007
- (13) Shin-Etsu Chemical Co Ltd; US 20070292768 A1 2007 CAPLUS
- (14) Shin-Etsu Chemical Co Ltd; JP 2007333933 A 2007 CAPLUS

L4 ANSWER 2 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2009:751430 CAPLUS

DN 151:125286

ED Entered STN: 23 Jun 2009

TI Alkali-soluble resins for photosensitive resin compositions with good adhesion, developability, and compatibility

IN Heo, Yun Hui; Ahn, Jeong Ae; Kim, Han Su; Lim, Min Yeong; Yoo, Ji Heum; Kim, Seon Hwa

PA LG Chem, Ltd., S. Korea

SO Repub. Korean Kongkae Taeho Kongbo, 16pp.

CODEN: KRXXA7

DT Patent

LA Korean

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 74

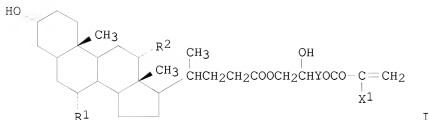
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI KR 2009061878	A	20090617	KR 2007-128867	20071212
PRAI KR 2007-128867		20071212		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	IPCI	C08F0220-00 [I,A]; C08F0220-10 [I,A]; C08F0210-00 [I,A]; G03F0007-027 [I,A]
	IPCR	C08F0220-00 [I,C]; C08F0220-00 [I,A]; C08F0210-00 [I,C]; C08F0210-00 [I,A]; C08F0220-10 [I,A]; G03F0007-027 [I,C]; G03F0007-027 [I,A]

GI



- AB Title alkali-soluble resins comprises repeated units CH<sub>2</sub>:CAX<sub>1</sub>, CH<sub>2</sub>:CHX<sub>2</sub>OCOCH<sub>2</sub>CH(OCOZCO<sub>2</sub>H)YOCOCHX<sub>1</sub>:CH<sub>2</sub>, and I, wherein A = Ph, benzyloxycarbonyl, methyloxycarbonyl, ethyloxycarbonyl, isobutyloxycarbonyl, t-butyloxycarbonyl, cyclohexyloxycarbonyl, or isobornyloxycarbonyl; X<sub>1</sub>, X<sub>2</sub> = H, C1-3 alkyl or alkoxy; Y = C1-3 alkylene, ethylene oxide, or propylene oxide; Z = C1-3 alkylene, cyclohexenylene, cyclohexanylene or phenylene; and R<sub>1</sub>, R<sub>2</sub> = H or OH.
- ST alkali soluble resin photosensitive compn adhesion developability compatibility
- IT Photoresists  
(alkali-soluble resins for photosensitive resin compns. with good adhesion, developability, and compatibility)
- IT 1169867-01-9P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(alkali-soluble resins for photosensitive resin compns. with good adhesion, developability, and compatibility)
- IT 86249-19-6P, Benzyl methacrylate-glycidyl methacrylate copolymer  
1169866-99-2P 1169867-00-8P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);
- RACT (Reactant or reagent)  
(alkali-soluble resins for photosensitive resin compns. with good adhesion, developability, and compatibility)
- IT 80-62-6D, Methyl methacrylate, copolymers 85-43-8D, ester with hydroxy-containing polymers 85-44-9D, Phthalic anhydride, ester with hydroxy-containing polymers 96-33-3D, Methyl acrylate, copolymers 97-63-2D, Ethyl methacrylate, copolymers 97-86-9D, Isobutyl methacrylate, copolymers 97-90-5D, Ethylene glycol dimethacrylate, copolymers 100-42-5D, Styrene, copolymers 101-43-9D, Cyclohexyl methacrylate, copolymers 106-63-8D, Isobutyl acrylate, copolymers 108-30-5D, Succinic anhydride, ester with hydroxy-containing polymers 140-88-5D, Ethyl acrylate, copolymers 585-07-9D, tert-Butyl methacrylate, copolymers 1121-34-2D, Malic anhydride, ester with hydroxy-containing polymers 1663-39-4D, tert-Butyl acrylate, copolymers 2274-11-5D, Ethylene glycol diacrylate, copolymers 2495-35-4D, Benzyl acrylate, copolymers 2495-37-6D, Benzyl methacrylate, copolymers 3066-71-5D, Cyclohexyl acrylate, copolymers 3253-41-6D, Pentaerythritol tetramethacrylate, copolymers 3524-66-1D, Pentaerythritol trimethacrylate, copolymers 3524-68-3D, Pentaerythritol triacrylate, copolymers 4986-89-4D, Pentaerythritol tetraacrylate, copolymers 5888-33-5D, Isobornyl acrylate, copolymers 7534-94-3D, Isobornyl

methacrylate, copolymers 25852-47-5D, Polyethylene glycol dimethacrylate, copolymers 26570-48-9D, Polyethylene glycol diacrylate, copolymers

RL: TEM (Technical or engineered material use); USES (Uses)  
(alkali-soluble resins for photosensitive resin compns. with good adhesion, developability, and compatibility)

L4 ANSWER 3 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
AN 2009:385185 CAPLUS  
DN 150:410239  
ED Entered STN: 02 Apr 2009  
TI Positive-type photosensitive resin composition, and method for formation of cured film using the same  
IN Takita, Satoshi  
PA Fujifilm Corporation, Japan  
SO PCT Int. Appl., 51pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2009041619	A1	20090402	WO 2008-JP67496	20080926
	W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	JP 2009098673	A	20090507	JP 2008-246883	20080925
PRAI	JP 2007-256203	A	20070928		
	JP 2008-246883	A	20080925		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2009041619	IPCI	G03F0007-039 [I,A]; G03F0007-004 [I,A]; G03F0007-40 [I,A]; H01L0021-027 [I,A]; H01L0021-02 [I,C*];
	IPCR	G03F0007-039 [I,C]; G03F0007-039 [I,A]; G03F0007-004 [I,C]; G03F0007-004 [I,A]; G03F0007-40 [I,C]; G03F0007-40 [I,A]; H01L0021-02 [I,C]; H01L0021-027 [I,A]
JP 2009098673	IPCI	G03F0007-039 [I,A]; G03F0007-004 [I,A]; G03F0007-40 [I,A]; H01L0021-027 [I,A]; H01L0021-02 [I,C*]; H01L0051-50 [I,A]; H05B0033-10 [I,A]; H05B0033-22 [I,A]; G02F0001-1333 [I,A]; G02F0001-13 [I,C*]; C08F0020-28 [I,A]; C08F0020-00 [I,C*]; G03F0007-075

IPCR [I,A]  
 G03F0007-039 [I,C]; G03F0007-039 [I,A]; C08F0020-00 [I,C]; C08F0020-28 [I,A]; G02F0001-13 [I,C]; G02F0001-1333 [I,A]; G03F0007-004 [I,C]; G03F0007-004 [I,A]; G03F0007-075 [I,C]; G03F0007-075 [I,A]; G03F0007-40 [I,C]; G03F0007-40 [I,A]; H01L0021-02 [I,C]; H01L0021-027 [I,A]; H01L0051-50 [I,C]; H01L0051-50 [I,A]; H05B0033-10 [I,C]; H05B0033-10 [I,A]; H05B0033-22 [I,C]; H05B0033-22 [I,A]

FTERM 2H025/AA01; 2H025/AA04; 2H025/AA10; 2H025/AA11; 2H025/AA14; 2H025/AB14; 2H025/AB16; 2H025/AC01; 2H025/AD03; 2H025/BE00; 2H025/BF02; 2H025/BF15; 2H025/BG00; 2H025/CC04; 2H025/CC06; 2H025/CC20; 2H025/FA17; 2H025/FA29; 2H025/FA30; 2H090/HB11X; 2H090/HB13X; 2H090/HC11; 2H090/HC13; 2H090/HC15; 2H090/HD08; 2H096/AA25; 2H096/AA27; 2H096/AA28; 2H096/BA11; 2H096/EA02; 2H096/GA09; 2H096/HA01; 2H096/HA03; 3K107/AA01; 3K107/CC21; 3K107/CC45; 3K107/DD90; 3K107/DD97; 3K107/FF13; 3K107/GG06; 3K107/GG11; 4J100/AB07Q; 4J100/AJ02R; 4J100/AL08P; 4J100/AL08Q; 4J100/AL08R; 4J100/BA02P; 4J100/BA03Q; 4J100/BA03R; 4J100/BA04P; 4J100/BA05Q; 4J100/BA06P; 4J100/BA14Q; 4J100/BC04P; 4J100/BC43P; 4J100/BC43Q; 4J100/BC53P; 4J100/CA04; 4J100/CA05; 4J100/DA01; 4J100/DA04; 4J100/DA38; 4J100/JA38

OS MARPAT 150:410239

AB Disclosed is a pos.-type photosensitive resin composition comprising: a resin which has a specific acrylic acid-type constituent unit whose dissociating group can be dissociated to produce a carboxyl group, which is insol. or poorly soluble in an alkali, and whose acid-dissociating group can be dissociated to render the resin alkali-soluble; a resin which has a constituent unit having a functional group capable of reacting with a carboxyl group to form a covalent bond; and a compound which can generate an acid upon being irradiated with an active ray or an radioactive ray. The pos.-type photosensitive resin composition is excellent in sensitivity, percentage residual film and storage stability. Also disclosed is a cured film produced by a cured film formation method using the pos.-type photosensitive resin composition. The cured film is excellent in heat resistance, an adhesion property, transmittance and the like.

ST pos photosensitive resin compn cured film acid generator

IT Dielectric films  
 Photoimaging materials  
 Semiconductor device fabrication  
 (pos.-type photosensitive resin composition, and method for formation of cured film using the same)

IT Coating materials  
 (protective layer; pos.-type photosensitive resin composition, and method for formation of cured film using the same)

IT 204993-57-7 852246-52-7 852246-54-9 852246-55-0 1138028-44-0

RL: CAT (Catalyst use); USES (Uses)  
 (acid generator in pos.-type photosensitive resin composition)  
 IT 86249-19-6P 155161-74-3P 293735-10-1P 1138028-34-8P  
 1138028-35-9P 1138028-36-0P 1138028-37-1P 1138028-38-2P  
 1138028-39-3P 1138028-40-6P 1138028-41-7P 1138028-42-8P  
 1138028-43-9P  
 RL: POF (Polymer in formulation); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)

(resin in pos.-type photosensitive resin composition)  
 OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

UPOS.G Date last citing reference entered STN: 09 Oct 2009

OS.G CAPLUS 2009:1200918

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE CITED REFERENCES

- (1) Ciba Specialty Chemicals Holding Inc; KR 1020060064700 A 2002
- (2) Ciba Specialty Chemicals Holding Inc; WO 1999001429 A1 2002
- (3) Ciba Specialty Chemicals Holding Inc; JP 2002508774 A 2002
- (4) Ciba Specialty Chemicals Holding Inc; TW 550439 B 2002 CAPLUS
- (5) Ciba Specialty Chemicals Holding Inc; US 6004724 A 2002 CAPLUS
- (6) Ciba Specialty Chemicals Holding Inc; DE 69807489 D 2002
- (7) Ciba Specialty Chemicals Holding Inc; DE 69807489 T 2002
- (8) Ciba Specialty Chemicals Holding Inc; AU 8628198 A 2002
- (9) Ciba Specialty Chemicals Holding Inc; EP 993445 A 2002 CAPLUS
- (10) Kyowa Hakko Chemical Co Ltd; JP 2006251296 A 2006 CAPLUS
- (11) NEC Corp; JP 2007186680 A 2007 CAPLUS
- (12) Sumitomo Chemical Co Ltd; JP 2003195506 A 2003 CAPLUS
- (13) Tokyo Ohka Kogyo Co Ltd; CN 101065709 A 2006 CAPLUS
- (14) Tokyo Ohka Kogyo Co Ltd; KR 1020070072607 A 2006
- (15) Tokyo Ohka Kogyo Co Ltd; EP 1817634 A 2006 CAPLUS
- (16) Tokyo Ohka Kogyo Co Ltd; WO 2006059747 A1 2006 CAPLUS
- (17) Tokyo Ohka Kogyo Co Ltd; JP 2006154569 A 2006 CAPLUS

L4 ANSWER 4 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2008:1259816 CAPLUS

DN 149:534985

ED Entered STN: 20 Oct 2008

TI heat-curable film-forming resin compositions used for protection of color  
 filter in liquid crystal displays

IN Zhang, Xiaoyu

PA BYD Company Limited, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 17pp.

CODEN: CNXXEV

DT Patent

LA Chinese

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 101284891	A	20081015	CN 2007-10090505	20070409
PRAI CN 2007-10090505		20070409		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	IPCI	C08F0220-32 [I,A]; C08F0220-00 [I,C*]; C08K0005-36

[I,A]; C08K0005-00 [I,C\*]; G02B0005-23 [I,A];  
G02B0005-22 [I,C\*]; G02F0001-1335 [N,A]; G02F0001-13  
[N,C\*]  
IPCR C08F0220-00 [I,C]; C08F0220-32 [I,A]; C08K0005-00  
[I,C]; C08K0005-36 [I,A]; G02B0005-22 [I,C];  
G02B0005-23 [I,A]; G02F0001-13 [I,C]; G02F0001-1335  
[I,A]

AB The compns., having high storage stability, comprise a unit A and a unit  
B  
at a mol. ratio of (1-8):1, wherein unit A is acrylate containing epoxy  
group;  
unit B is one or more of benzyl (meth)acrylate, phenylethyl  
(meth)acrylate, and Ph (meth)acrylate; the weight average mol. weight of  
the  
film-forming resin is 5000-100,000. Thus, dripping mixture of 80 parts  
glycidyl methacrylate and 20 parts benzyl methacrylate in AIBN 2.5,  
propylene glycol Me ether acetate 50 and ethylene glycol Bu ether acetate  
50 parts to a mixed solvents containing 20 parts propylene glycol Me  
ether  
acetate and 20 parts ethylene glycol Bu ether acetate and polymerizing at  
80° gave a film-forming resin, which was added with a curing agent  
containing 6.5 parts trimellitic anhydride and 6.5 parts ST 1000 (epoxy  
resin), 12 parts γ-glycidoxypropyltrimethoxysilane, 0.2 parts FC  
4430, 30 parts propylene glycol Me ether acetate and 30 parts ethylene  
glycol Bu ether acetate to give a title composition  
ST methacrylate heat curable filmforming compn color filter protection  
IT Crosslinking agents  
(preparation of heat-curable film-forming resin compns. used for  
protection  
of color filter)  
IT Epoxy resins, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of heat-curable film-forming resin compns. used for  
protection  
of color filter)  
IT 86249-19-6P, Benzyl methacrylate-glycidyl methacrylate copolymer  
1075277-49-4P 1075277-50-7P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP  
(Properties); TEM (Technical or engineered material use); PREP  
(Preparation); USES (Uses)  
(preparation of heat-curable film-forming resin compns. used for  
protection  
of color filter)  
IT 2530-83-8, γ-Glycidoxypropyltrimethoxysilane 620961-93-5, FC 4430  
RL: MOA (Modifier or additive use); USES (Uses)  
(preparation of heat-curable film-forming resin compns. used for  
protection  
of color filter)  
IT 112-07-2, Ethylene glycol butyl ether acetate 10471-14-4,  
1-Methoxy-1-ethoxyethane 84540-57-8, Propylene glycol methyl ether  
acetate  
RL: NUU (Other use, unclassified); USES (Uses)  
(preparation of heat-curable film-forming resin compns. used for  
protection  
of color filter)



IT 106-90-1D, Glycidyl acrylate, polymer with Ph derivs. (meth)acrylates  
 106-91-2D, Glycidyl methacrylate, polymer with Ph derivs. (meth)acrylates  
 2177-70-0D, Phenyl methacrylate, polymer with epoxy-bearing  
 (meth)acrylates 2495-37-6D, Benzyl methacrylate, polymer with  
 epoxy-bearing (meth)acrylates 3683-12-3D, Phenethyl methacrylate,  
 polymer with epoxy-bearing (meth)acrylates 55750-22-6D, 3,4-Epoxybutyl  
 methacrylate, polymer with Ph derivs. (meth)acrylates 62066-42-6D,  
 polymer with Ph derivs. (meth)acrylates 69960-59-4D, polymer with Ph  
 derivs. (meth)acrylates 83201-25-6D, 3,4-Epoxybutyl acrylate, polymer  
 with Ph derivs. (meth)acrylates 212963-28-5D, polymer with Ph derivs.  
 (meth)acrylates 1075277-51-8D, polymer with Ph derivs. (meth)acrylates  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or  
 engineered material use); USES (Uses)  
 (preparation of heat-curable film-forming resin compns. used for  
 protection  
 of color filter)

IT 85-42-7, Hexahydrophthalic anhydride 85-44-9, Phthalic anhydride  
 89-32-7, Pyromellitic anhydride 552-30-7, Trimellitic anhydride  
 2426-02-0 26283-70-5 26590-20-5, Methyltetrahydrophthalic anhydride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of heat-curable film-forming resin compns. used for  
 protection  
 of color filter)

L4 ANSWER 5 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
 AN 2006:1284428 CAPLUS  
 DN 146:52543  
 ED Entered STN: 08 Dec 2006  
 TI Pigment-containing heat-curable composition, color filter,  
 image-recording  
 material, and producing color filter  
 IN Yamada, Toru  
 PA Fuji Photo Film Co., Ltd., Japan  
 SO U.S. Pat. Appl., 28pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 INCL 430007000; 430271100  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 37, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20060275676	A1	20061207	US 2006-446396	20060605
	KR 2006126404	A	20061207	KR 2006-49930	20060602
	JP 2007011324	A	20070118	JP 2006-155227	20060602
	JP 2007023262	A	20070201	JP 2006-155228	20060602
PRAI	JP 2005-164840	A	20050603		
	JP 2005-173750	A	20050614		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 20060275676	INCL IPCI	430007000; 430271100 G02B0005-20 [I,A]

	IPCR	G02B0005-20 [I,C]; G02B0005-20 [I,A]
	NCL	430/007.000; 430/271.100
	ECLA	G02B0005/20; C08J003/20
KR 2006126404	IPCI	C08L0063-00 [I,A]; C08J0003-02 [I,A]
	ECLA	G02B0005/20; C08J003/20
JP 2007011324	IPCI	G02B0005-20 [I,A]; G03F0007-004 [I,A]; G03F0007-40 [I,A]; G03F0007-11 [I,A]; G02F0001-1335 [I,A]; G02F0001-13 [I,C*]
	IPCR	G02B0005-20 [I,C]; G02B0005-20 [I,A]; G02F0001-13 [I,C]; G02F0001-1335 [I,A]; G03F0007-004 [I,C]; G03F0007-004 [I,A]; G03F0007-11 [I,C]; G03F0007-11 [I,A]; G03F0007-40 [I,C]; G03F0007-40 [I,A]
	FTERM	2H025/AA03; 2H025/AA14; 2H025/AA17; 2H025/AB13; 2H025/AC01; 2H025/AD01; 2H025/BC13; 2H025/BC42; 2H025/CA00; 2H025/CC11; 2H025/DA31; 2H025/DA39; 2H025/FA17; 2H025/FA35; 2H025/FA41; 2H048/BA02; 2H048/BA11; 2H048/BA43; 2H048/BA45; 2H048/BA48; 2H048/BB02; 2H048/BB42; 2H048/BB46; 2H091/FA04Y; 2H091/FB03; 2H091/FC10; 2H091/FD04; 2H091/LA12; 2H091/LA30; 2H096/AA27; 2H096/AA30; 2H096/BA05; 2H096/CA06; 2H096/EA02; 2H096/GA08; 2H096/GA36; 2H096/HA07; 2H096/HA23; 2H096/JA04; 2H096/KA02
JP 2007023262	IPCI	C08L0101-00 [I,A]; G03F0007-11 [I,A]; G03F0007-105 [I,A]; G03F0007-09 [I,C*]; G03F0007-40 [I,A]; G02B0005-20 [I,A]; C08K0003-00 [I,A]; C08K0005-00 [I,A]
	IPCR	C08L0101-00 [I,C]; C08L0101-00 [I,A]; C08K0003-00 [I,C]; C08K0003-00 [I,A]; C08K0005-00 [I,C]; C08K0005-00 [I,A]; G02B0005-20 [I,C]; G02B0005-20 [I,A]; G03F0007-09 [I,C]; G03F0007-105 [I,A]; G03F0007-11 [I,C]; G03F0007-11 [I,A]; G03F0007-40 [I,A]; G03F0007-40 [I,A]
	FTERM	2H025/AB13; 2H025/AC01; 2H025/DA31; 2H025/FA41; 2H048/BA02; 2H048/BA45; 2H048/BA47; 2H048/BB02; 2H048/BB42; 2H096/AA28; 2H096/CA05; 2H096/EA02; 2H096/HA23; 2H096/JA04; 4J002/BF051; 4J002/CC161; 4J002/CC181; 4J002/CC191; 4J002/CD021; 4J002/CD051; 4J002/CD061; 4J002/CF011; 4J002/CF211; 4J002/CK021; 4J002/CP031; 4J002/DE076; 4J002/DE086; 4J002/DE096; 4J002/DE116; 4J002/DE126; 4J002/DE136; 4J002/DE146; 4J002/EA057; 4J002/ED027; 4J002/EE037; 4J002/EH037; 4J002/EH157; 4J002/EL067; 4J002/ED096; 4J002/GP00; 4J002/HA01

## ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The pigment-containing heat-curable composition including a pigment dispersion

solution is obtained by dispersing a heat-curable resin, a solvent, and a pigment, where the concentration of the pigment 50-100% with respect to the total solid contents.

ST color filter dry etch film pigmented epoxy resin dispersion; photoimaging material pigmented epoxy resin dispersion

IT Epoxy resins, uses

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

10551130

(binder; pigment-containing heat-curable composition for manufacturing color filter)  
IT Negative photoresists  
Positive photoresists  
(laminate; pigment-containing heat-curable composition for manufacturing color filter)  
IT Optical filters  
Photoimaging materials  
Pigments, nonbiological  
(pigment-containing heat-curable composition for manufacturing color filter)  
IT 65697-21-4, Benzyl methacrylate/methacrylic acid copolymer 149984-16-7, Epolead GT 401  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(binder; pigment-containing heat-curable composition for manufacturing color filter)  
IT 86249-19-6, Benzyl methacrylate-glycidyl methacrylate copolymer 244772-00-7, EHPE-3150  
RL: TEM (Technical or engineered material use); USES (Uses)  
(binder; pigment-containing heat-curable composition for manufacturing color filter)  
IT 916515-96-3, Benzyl methacrylate-Methacrylic acid-methyl methacrylate-Pentaerythritol tetraacrylate copolymer  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(photoresist; pigment-containing heat-curable composition for manufacturing color filter)  
IT 893072-86-1, FHI 3950  
RL: TEM (Technical or engineered material use); USES (Uses)  
(photoresist; pigment-containing heat-curable composition for manufacturing color filter)

L4 ANSWER 6 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
AN 2005:450794 CAPLUS  
DN 142:490400  
ED Entered STN: 27 May 2005  
TI Bottom antireflective coatings  
IN Yao, Huirong; Ding-Lee, Shuji; Wu, Hengpeng; Xiang, Zhong  
PA Az Electronic Materials Usa Corp., USA  
SO U.S. Pat. Appl. Publ., 19 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM G03C001-76  
INCL 430270100; X43-028.11  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 38  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050112494	A1	20050526	US 2003-721883	20031126

10551130

US 7030201 B2 20060418  
 WO 2005052016 A2 20050609 WO 2004-IB4412 20041113  
 WO 2005052016 A3 20060323  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,  
 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,  
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,  
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,  
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,  
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO,  
 SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
 NE, SN, TD, TG  
 EP 1692094 A2 20060823 EP 2004-816624 20041113  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,  
 HR, IS, YU  
 PRAI US 2003-721883 A 20031126  
 WO 2004-IB4412 W 20041113

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 20050112494 ICM G03C001-76  
 INCL 430270100; X43-028.11  
 IPCI C08F0126-06 [I,A]; C08F0126-00 [I,C\*]; C08F0226-06  
 [I,A]; C08F0226-00 [I,C\*]; C08F0122-40 [I,A];  
 C08F0122-00 [I,C\*]; C08F0004-44 [I,A]; C08F0004-00  
 [I,C\*]; C07C0321-00 [I,A]  
 IPCR C07C0231-00 [I,C\*]; C07C0231-08 [I,A]; C07D0207-00  
 [I,C\*]; C07D0207-404 [I,A]; C08F0008-00 [I,C\*];  
 C08F0008-30 [I,A]; C08F0220-00 [I,C\*]; C08F0220-36  
 [I,A]; C08F0220-58 [I,A]; C09D0133-14 [I,C\*];  
 C09D0133-14 [I,A]; C09D0133-24 [I,C\*]; C09D0133-24  
 [I,A]; G03F0007-09 [I,C\*]; G03F0007-09 [I,A];  
 C08F0126-00 [I,C]; C08F0126-06 [I,A]; C07C0321-00  
 [I,C]; C07C0321-00 [I,A]; C08F0004-00 [I,C];  
 C08F0004-44 [I,A]; C08F0122-00 [I,C]; C08F0122-40  
 [I,A]; C08F0226-00 [I,C]; C08F0226-06 [I,A]  
 NCL 430/270.100; 430/281.100; 526/260.000; 525/123.000;  
 525/326.700; 525/326.800; 525/327.100; 525/328.200;  
 526/262.000; 526/304.000; 540/525.000; 544/175.000;  
 546/142.000; 546/183.000; 546/237.000; 546/296.000;  
 548/479.000; 548/547.000; 564/158.000; 564/159.000;  
 564/162.000  
 ECLA C07D207/404; C08F008/30+20/32; G03F007/09A  
 WO 2005052016 IPCI C08F0220-32 [ICM,7]; C08F0220-00 [ICM,7,C\*];  
 C08F0008-46 [ICS,7]; C09D0133-14 [ICS,7]; C08F0008-00  
 [ICS,7]; C08F0020-36 [ICS,7]; C07C0231-08 [ICS,7];  
 C07C0231-00 [ICS,7,C\*]; C07D0207-404 [ICS,7];  
 C07D0207-00 [ICS,7,C\*]; C08F0008-30 [ICS,7];  
 C08F0020-32 [ICS,7]; C08F0020-58 [ICS,7]; C08F0020-00  
 [ICS,7,C\*]; C09D0133-24 [ICS,7]; G03F0007-09 [ICS,7]  
 IPCR C07C0231-00 [I,C\*]; C07D0207-00 [I,C\*]; C08F0008-00  
 [I,C\*]; C08F0220-00 [I,C\*]; C09D0133-14 [I,C\*];

C09D0133-24 [I,C\*]; G03F0007-09 [I,C\*]; C07C0231-08 [I,A]; C07D0207-404 [I,A]; C08F0008-30 [I,A]; C08F0220-36 [I,A]; C08F0220-58 [I,A]; C09D0133-14 [I,A]; C09D0133-24 [I,A]; G03F0007-09 [I,A]  
 ECLA C07D207/404; C08F008/30+20/32; G03F007/09A  
 EP 1692094 IPCI C07C0231-08 [ICM,7]; C07C0231-00 [ICM,7,C\*]; C08F0220-58 [ICS,7]; C07D0207-404 [ICS,7]; C07D0207-00 [ICS,7,C\*]; C09D0133-14 [ICS,7]; C08F0008-30 [ICS,7]; C08F0008-00 [ICS,7,C\*]; C09D0133-24 [ICS,7]; C08F0220-36 [ICS,7]; C08F0220-00 [ICS,7,C\*]; G03F0007-09 [ICS,7]  
 ECLA C07D207/404; C08F008/30+20/32; G03F007/09A  
 ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT  
 OS MARPAT 142:490400  
 AB The present invention relates to bottom antireflective coating compns.  
 and  
 polymers useful in making such compns.  
 ST bottom antireflective coating photoresist photolithog  
 IT Antireflective films  
 Photolithography  
 Photoresists  
 (bottom antireflective coatings)  
 IT 25167-42-4DP, Glycidyl methacrylate-styrene copolymer, Succinimide adduct 86249-19-6DP, Benzyl methacrylate-Glycidyl methacrylate copolymer, Succinimide adduct 851883-55-1P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (bottom antireflective coatings containing)  
 IT 79-06-1, Acrylamide, reactions 108-24-7, Acetic anhydride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of polymer for bottom antireflective coatings)  
 IT 1432-45-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of polymer for bottom antireflective coatings)  
 RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE CITED REFERENCES  
 (1) Anon; EP 0922715 A2 1999 CAPLUS  
 (2) Anon; English language abstract of JP37009212  
 (3) Anon; International Search Report for PCT IB2004004412  
 (4) Anon; Notification of Transmittal of International Search Report and the Written Opinion of the International Searching Authority for PCT/IB2004/004412for PCT/IB2004/004412for PCT/IB2004/004412  
 (5) Anon; Written Opinion of the International Search Authority for PCT IB2004004412  
 (6) Arase; US 20020156148 A1 2002 CAPLUS  
 (7) Baumann; US 4079041 A 1978 CAPLUS  
 (8) Lele; US 6369249 B1 2002 CAPLUS  
 (9) Meador; US 5919599 A 1999 CAPLUS  
 (10) Meador; US 6156479 A 2000 CAPLUS  
 (11) Muller; US 4532332 A 1985 CAPLUS  
 (12) Okazaki; US 6730763 B1 2004 CAPLUS  
 (13) Puligadda; US 20030004283 A1 2003 CAPLUS  
 (14) Simms; US 5424364 A 1995 CAPLUS  
 (15) Zweifel; US 4247660 A 1981 CAPLUS

L4 ANSWER 7 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:344412 CAPLUS

DN 142:393910

ED Entered STN: 21 Apr 2005

TI Thermosetting coating compositions with good transparency, heat, chemical,

and sputtering resistance, adhesion, and smoothness

IN Fukumura, Takanori; Sato, Hiroyuki; Itami, Setsuo; Watanabe, Eiji

PA Chisso Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08G059-46

ICS G02B005-20; G02F001-1335

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005105264	A	20050421	JP 2004-261841	20040909
PRAI	JP 2003-317373	A	20030909		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2005105264	ICM	C08G059-46
	ICS	G02B005-20; G02F001-1335
	IPCI	C08G0059-46 [ICM,7]; C08G0059-00 [ICM,7,C*]; G02B0005-20 [ICS,7]; G02F0001-1335 [ICS,7];
G02F0001-13		[ICS,7,C*]
	IPCR	C08G0059-00 [I,C*]; C08G0059-46 [I,A]; G02B0005-20 [I,A]; G02B0005-20 [I,C*]; G02F0001-13 [I,C*]; G02F0001-1335 [I,A]
	FTERM	2H048/BA02; 2H048/BA55; 2H048/BA62; 2H048/BB02; 2H048/BB37; 2H048/BB42; 2H048/BB46; 2H091/FA02; 2H091/FB03; 2H091/GA01; 2H091/GA03; 2H091/GA07; 2H091/GA13; 2H091/LA04; 2H091/LA06; 2H091/LA12; 4J036/AD08; 4J036/AD11; 4J036/AG00; 4J036/AJ09; 4J036/AK11; 4J036/DB15; 4J036/DB17; 4J036/DB22; 4J036/FB14; 4J036/JA15

AB Title comps. comprise (A) polyesteramide resins obtained from tetracarboxylic dianhydrides, diamines, and polyhydroxy compds. 100,

epoxy

resins 20-400, epoxy curing agents 15-60 parts (based on 100 parts epoxy resin). Thus, 3,3'-diaminodiphenyl sulfone 9.93, 1,4-butanediol 14.42, and 3,3',4,4'-diphenyl ether tetracarboxylic anhydride 62.04 g were polymerized to give 30%-solid polyester-polyamide solution with

viscosity 36.5

mPa-s and weight average mol. weight 7600, 100 g of which was mixed with

a Me

methacrylate-glycidyl methacrylate copolymer 30, trimellitic anhydride 6, 3-glycidioxypropyltrimethoxysilane 3, and Byk 344 (surfactant) 0.69 g, applied on a substrate, dried at 80° for 3 min, and heated at

- 220° for 30 min to give a test piece with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness.
- ST thermosetting coating transparency heat chem sputtering resistance adhesion smoothness; diaminodiphenyl sulfone butanediol diphenyl ether tetracarboxylic anhydride copolymer prep; polyesteramide methyl glycidyl methacrylate trimellitic anhydride copolymer compn
- IT Epoxy resins, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic, blend with polyester-polyamides; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Epoxy resins, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (alicyclic, blend with polyester-polyamides; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Polysiloxanes, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (amino-containing, reaction products with polyester-polyamides; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Epoxy resins, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (anhydride-cured, blend with polyester-polyamides; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Coating materials  
 (chemical- and heat-resistant; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Transparent materials  
 (coatings; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Polyesters, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (polyamide-, blend with epoxy resins; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)
- IT Polysulfones, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polyester-, blend with acrylic epoxy resins; thermosetting resin compns. with good transparency, heat, chemical, and sputtering

resistance, adhesion, and smoothness)

IT Polyesters, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polysulfone-, blend with acrylic epoxy resins;

thermosetting  
 resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT Polyamides, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (polyester-, blend with epoxy resins; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance,

adhesion,  
 and smoothness)

IT Polyamides, uses  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyester-polysulfone-, blend with acrylic epoxy resins;

thermosetting  
 resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT Alcohols, uses  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (primary, reaction products with polyester-polyamides; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT Coating materials  
 (smooth-surfaced; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT Electroluminescent devices  
 Liquid crystal displays  
 Optical filters  
 Optical imaging sensors  
 (thermosetting resin compns. with good transparency, heat, chemical,

and  
 sputtering resistance, adhesion, and smoothness)

IT Coating materials  
 (thermosetting; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT Coating materials  
 (transparent; thermosetting resin compns. with good transparency, heat,

chemical, and sputtering resistance, adhesion, and smoothness)

IT 100-51-6DP, Benzyl alcohol, reaction products with polyester-polyamides  
 106209-33-0DP, SMA 1000, reaction products with polyester-polyamides  
 849133-83-1DP, reaction products with styrene-maleic anhydride copolymers or benzyl alc. 849133-83-1P 849928-55-8P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (blend with acrylic epoxy resin; thermosetting resin compns. with good



transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT 198699-40-0P 681435-08-5P 849928-56-9P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (blend with polyester-polyamide; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

IT 25067-05-4, Polyglycidyl methacrylate 25167-42-4, Glycidyl methacrylate-styrene copolymer 28472-86-8, Glycidyl methacrylate-2-hydroxyethyl methacrylate copolymer 86249-19-6, Benzyl methacrylate-glycidyl methacrylate copolymer  
 RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
 (blend with polyester-polyamide; thermosetting resin compns. with good transparency, heat, chemical, and sputtering resistance, adhesion, and smoothness)

OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)  
 UPOS.G Date last citing reference entered STN: 01 May 2009  
 OS.G CAPLUS 2009:490511; 2009:490496

L4 ANSWER 8 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
 AN 2005:33669 CAPLUS  
 DN 142:115119  
 ED Entered STN: 14 Jan 2005  
 TI Manufacture of polymers for radically curable polymer compositions for pattern formation  
 IN Kamata, Hirotoshi; Ota, Keisuke; Kai, Kazushi  
 PA Showa Denko K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C08F008-14  
 ICS G03F007-038; C08F290-08  
 CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 74  
 FAN.CNT 1

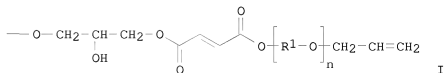
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005008858	A	20050113	JP 2004-104236	20040331
PRAI JP 2003-150798	A	20030528		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2005008858	ICM	C08F008-14
	ICS	G03F007-038; C08F290-08
	IPCI	C08F0008-14 [ICM,7]; C08F0008-00 [ICM,7,C*]; G03F0007-038 [ICS,7]; C08F0290-08 [ICS,7]; C08F0290-00 [ICS,7,C*]
	IPCR	C08F0008-00 [I,C*]; C08F0008-14 [I,A]; C08F0290-00 [N,C*]; C08F0290-08 [N,A]; G03F0007-038 [I,A]; G03F0007-038 [I,C*]
	FTERM	2H025/AB14; 2H025/AB15; 2H025/AB17; 2H025/AB20;

2H025/AC01; 2H025/AD01; 2H025/BC32; 2H025/BC42;  
 2H025/BC51; 2H025/BC53; 2H025/BC81; 2H025/BJ10;  
 2H025/CA01; 2H025/CA18; 2H025/CA20; 2H025/CA27;  
 2H025/CA28; 2H025/FA03; 2H025/FA17; 4J100/AB02Q;  
 4J100/AB03Q; 4J100/AB07Q; 4J100/AE18P; 4J100/AG04Q;  
 4J100/AL03Q; 4J100/AL04Q; 4J100/AL08P; 4J100/AL08Q;  
 4J100/AL09Q; 4J100/AL10P; 4J100/AM02Q; 4J100/AM15Q;  
 4J100/AM17Q; 4J100/AM19Q; 4J100/AQ06Q; 4J100/AQ08Q;  
 4J100/BA02H; 4J100/BA03Q; 4J100/BA08H; 4J100/BA14Q;  
 4J100/BA15H; 4J100/BA31Q; 4J100/BB17Q; 4J100/BB18Q;  
 4J100/BC04Q; 4J100/BC08Q; 4J100/BC12Q; 4J100/BC43Q;  
 4J100/BC53Q; 4J100/BC54P; 4J100/BC79Q; 4J100/CA04;  
 4J100/CA31; 4J100/HA11; 4J100/HA61; 4J100/HA62;  
 4J100/HC27; 4J100/HC34; 4J100/JA38; 4J127/AA01;  
 4J127/AA02; 4J127/AA03; 4J127/BB041; 4J127/BB081;  
 4J127/BB191; 4J127/BB221; 4J127/BB251; 4J127/BB301;  
 4J127/BC031; 4J127/BD061; 4J127/BE11X; 4J127/BE111;  
 4J127/BE27X; 4J127/BE271; 4J127/BE31X; 4J127/BE311;  
 4J127/BE34Y; 4J127/BE341; 4J127/BE39X; 4J127/BE391;  
 4J127/BG05X; 4J127/BG051; 4J127/BG10Y; 4J127/BG101;  
 4J127/BG17Y; 4J127/BG171; 4J127/CB341; 4J127/FA17

GI



AB The polymers have I [R<sup>1</sup> = (cyclo)alkylene, aralkylene, arylene; n = 0-20] and optionally OCH<sub>2</sub>CHOHCH<sub>2</sub>OCOCR<sub>2</sub>C (R<sub>2</sub> = H, Me) as side chains. Thus, addition reaction of glycidyl methacrylate-Me methacrylate copolymer with acrylic acid and monoallyloxyethyl fumarate in the presence of tetrabutylammonium bromide gave a curable polymer, which was mixed with trimethylolpropane triacrylate and Irgacure 907 (photopolymn. catalyst), applied on a glass plate, dried, irradiated with UV, and developed to

give a pattern with high sensitivity.

ST acrylic polymer pattern formation curable; glycidyl methacrylate methyl polymer acrylate monoallyloxyethyl fumarate; tetrabutylammonium bromide catalyst addn polymer ester; trimethylolpropane triacrylate polymer pattern photocurable

IT Addition reaction catalysts

Photoimaging materials

(manufacture of polymers for radically curable polymer compns. for pattern formation)

IT Halides

Phosphines

Phosphonium compounds

Quaternary ammonium compounds, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (manufacture of polymers for radically curable polymer compns. for  
 pattern formation)  
 IT Amines, uses  
 RL: CAT (Catalyst use); USES (Uses)  
 (tertiary; manufacture of polymers for radically curable polymer  
 compns. for pattern formation)  
 IT 56-37-1, Benzyltriethylammonium chloride 56-93-9,  
 Benzyltrimethylammonium chloride 603-35-0, Triphenylphosphine, uses  
 1100-88-5, Benzyltriphenylphosphonium chloride 1530-32-1,  
 Ethyltriphenylphosphonium bromide 1643-19-2, Tetrabutylammonium bromide  
 2751-90-8, Tetraphenylphosphonium bromide  
 RL: CAT (Catalyst use); USES (Uses)  
 (manufacture of polymers for radically curable polymer compns. for  
 pattern formation)  
 IT 820212-15-5P 820212-16-6P  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (manufacture of polymers for radically curable polymer compns. for  
 pattern formation)  
 IT 820212-04-2P 820212-05-3P  
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); RCT  
 (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (manufacture of polymers for radically curable polymer compns. for  
 pattern formation)  
 IT 26141-88-8P, Glycidyl methacrylate-methyl methacrylate copolymer  
 86249-19-6P, Benzyl methacrylate-glycidyl methacrylate copolymer  
 391675-16-4P, Monoallyloxyethyl fumarate  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);  
 RACT  
 (Reactant or reagent)  
 (manufacture of polymers for radically curable polymer compns. for  
 pattern formation)  
 IT 108-31-6, Maleic anhydride, reactions 111-45-5, Ethylene glycol  
 monoallyl ether  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manufacture of polymers for radically curable polymer compns. for  
 pattern formation)  
 L4 ANSWER 9 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
 AN 2004:1059427 CAPLUS  
 DN 142:39564  
 ED Entered STN: 10 Dec 2004  
 TI Curable polymer compounds for photosensitive compositions with good  
 photosensitivity  
 IN Kamata, Hirotooshi; Ohta, Keisuke; Kai, Kazufumi  
 PA Showa Denko K.K., Japan  
 SO PCT Int. Appl., 58 pp.

10551130

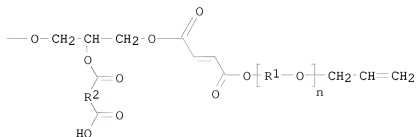
CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM C08L071-02  
 ICS C08F020-00  
 CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 35, 74  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106431	A2	20041209	WO 2004-JP7471	20040525
WO 2004106431	A3	20050224		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
JP 2005008857	A	20050113	JP 2004-102587	20040331
EP 1629046	A2	20060301	EP 2004-734763	20040525
EP 1629046	B1	20080514		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK			
CN 1795239	A	20060628	CN 2004-80014628	20040525
CN 100343335	C	20071017		
AT 395382	T	20080515	AT 2004-734763	20040525
US 20070021571	A1	20070125	US 2005-557173	20051117
US 7569327	B2	20090804		
PRAI JP 2003-151215	A	20030528		
US 2003-478344P	P	20030616		
WO 2004-JP7471	W	20040525		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004106431	ICM	C08L071-02
	ICS	C08F020-00
	IPCI	C08L0071-02 [ICM,7]; C08L0071-00 [ICM,7,C*]; C08F0020-00 [ICS,7]
	IPCR	C08F0008-00 [I,C*]; C08F0008-00 [I,A]; C08F0008-14 [I,A]; C08F0008-46 [I,A]; C08F0283-00 [I,C*]; C08F0283-06 [I,A]; C08F0283-10 [I,A]; C08F0290-00 [I,C*]; C08F0290-04 [I,A]; C08F0290-06 [I,A]; C08F0290-14 [I,A]; C08G0059-00 [I,C*]; C08G0059-14 [I,A]; C08G0059-16 [I,A]; C08G0065-00 [I,C*]; C08G0065-332 [I,A]; G03F0007-033 [I,C*]; G03F0007-033 [I,A]
	ECLA	C08F008/14+220/32; C08F008/14+220/14; C08F008/14+220/18; C08F008/46+220/18; C08F008/46+220/14; C08F008/46+220/28; C08F283/06; C08F283/10; C08F290/04; C08F290/06; C08F290/14;

C08G059/14K2D; C08G059/14K2D2; C08G059/14S;  
 C08G065/332D; G03F007/033; G03F007/038S  
 JP 2005008857 IPCI C08F0008-46 [ICM,7]; C08F0008-14 [ICS,7]; C08F0008-00  
 [ICS,7,C\*]; G03F0007-027 [ICS,7]; G03F0007-038 [ICS,7]  
 IPCR C08F0008-00 [I,C\*]; C08F0008-14 [I,A]; C08F0008-46  
 [I,A]; G03F0007-027 [I,A]; G03F0007-027 [I,C\*];  
 G03F0007-038 [I,A]; G03F0007-038 [I,C\*]  
 FTERM 2H025/AA04; 2H025/AA09; 2H025/AA10; 2H025/AB13;  
 2H025/AB15; 2H025/AC01; 2H025/AD01; 2H025/BC14;  
 2H025/BC19; 2H025/BC74; 2H025/BC81; 2H025/BC85;  
 2H025/BC86; 2H025/FA17; 4J100/AB02Q; 4J100/AB03Q;  
 4J100/AB07Q; 4J100/AE18P; 4J100/AG04Q; 4J100/AL03Q;  
 4J100/AL04Q; 4J100/AL08P; 4J100/AL08Q; 4J100/AL09Q;  
 4J100/AL10P; 4J100/AM02Q; 4J100/AM15Q; 4J100/AM17Q;  
 4J100/AM19Q; 4J100/AQ06Q; 4J100/AQ08Q; 4J100/BA02H;  
 4J100/BA03Q; 4J100/BA08H; 4J100/BA14Q; 4J100/BA15H;  
 4J100/BA16H; 4J100/BA31Q; 4J100/BB17Q; 4J100/BB18Q;  
 4J100/BC04Q; 4J100/BC08Q; 4J100/BC12Q; 4J100/BC23H;  
 4J100/BC43Q; 4J100/BC53Q; 4J100/BC54P; 4J100/BC79Q;  
 4J100/CA04; 4J100/CA31; 4J100/HA11; 4J100/HA61;  
 4J100/HA62; 4J100/HC27; 4J100/HC28; 4J100/HC29;  
 4J100/HC30; 4J100/HC34; 4J100/JA38  
 EP 1629046 IPCI C08L0071-00 [I,C]; C08L0071-02 [I,A]; C08F0020-00  
 [I,C]; C08F0020-00 [I,A]  
 IPCR C08L0071-00 [I,C]; C08L0071-02 [I,A]; C08F0020-00  
 [I,C]; C08F0020-00 [I,A]  
 CN 1795239 IPCI C08L0071-02 [I,A]; C08F0020-00 [I,A]; C08L0071-00  
 [I,C]; C08L0071-02 [I,A]  
 IPCR C08L0071-00 [I,C]; C08L0071-02 [I,A]; C08F0020-00  
 [I,C]; C08F0020-00 [I,A]  
 AT 395382 IPCI C08L0071-00 [I,C]; C08L0071-02 [I,A]; C08F0020-00  
 [I,C]; C08F0020-00 [I,A]  
 IPCR C08L0071-00 [I,C]; C08L0071-02 [I,A]; C08F0020-00  
 [I,C]; C08F0020-00 [I,A]  
 US 20070021571 IPCI C08F0008-00 [I,A]; C08L0071-02 [I,A]; C08L0071-00  
 [I,C\*]; C08F0020-00 [I,A]; G03F0007-038 [I,A]  
 IPCR C08F0008-00 [I,C]; C08F0008-00 [I,A]; C08L0071-00  
 [I,C]; C08L0071-02 [I,A]; C08F0008-14 [I,A];  
 C08F0008-46 [I,A]; C08F0020-00 [I,C]; C08F0020-00  
 [I,A]; C08F0283-00 [I,C\*]; C08F0283-06 [I,A];  
 C08F0283-10 [I,A]; C08F0290-00 [I,C\*]; C08F0290-04  
 [I,A]; C08F0290-06 [I,A]; C08F0290-14 [I,A];  
 C08G0059-00 [I,C\*]; C08G0059-14 [I,A]; C08G0059-16  
 [I,A]; C08G0065-00 [I,C\*]; C08G0065-332 [I,A];  
 G03F0007-033 [I,C\*]; G03F0007-033 [I,A]; G03F0007-038  
 [I,C]; G03F0007-038 [I,A]  
 NCL 525/386.000; 430/285.100; 430/007.000; 430/018.000;  
 430/287.100; 430/311.000; 430/325.000; 522/100.000;  
 522/142.000; 525/286.000; 525/301.000  
 ECLA C08F008/14+220/32; C08F008/14+220/14;  
 C08F008/14+220/18; C08F008/46+220/18;  
 C08F008/46+220/14; C08F008/46+220/28; C08F283/06;  
 C08F283/10; C08F290/04; C08F290/06; C08F290/14;  
 C08G059/14K2D; C08G059/14K2D2; C08G059/14S;  
 C08G065/332D; G03F007/033; G03F007/038S



I

AB This invention relates to novel polymer compds. having a side chain I, and a process for preparing the same and radical polymerizable curable compns. using the same, wherein R1 = independently  $\geq 1$  organic residue selected from alkylene, branched alkylene, cycloalkylene, aralkylene, and arylene; R2 = independently  $\geq 1$  organic residue selected from alkylene, branched alkylene, alkenylene, branched alkenylene, cycloalkylene, cycloalkenylene, and arylene; and n = 0-20 integer. Thus, glycidyl methacrylate 88.0, Me methacrylate 62.0, 2-mercaptoethanol 0.93, and propylene glycol monomethyl ether acetate 350.0 g were heated at 90°, a solution containing glycidyl methacrylate 88.0, Me methacrylate 62.0, 2-mercaptoethanol 0.93, propylene glycol monomethyl ether acetate 350.0, and AIBN 6.3 g was added therein and polymerized for 3 h to give a copolymer with weight average mol. weight 14,000, 300 g of which was mixed with monoallyloxyethyl fumarate obtained from maleic anhydride and ethylene glycol monoallyl ether 38.0, acrylic acid 13.7, tetrabutylammonium bromide 3.0, and methoxyquinone 0.15 g, heated at 90° for 15 h, 44.0 g tetrahydrophthalic anhydride was added therein and heated at 45° to give a copolymer having a double bond with acid value 90 and weight average mol. weight 55,000, 100 parts of which (30%-solids) was mixed with Light Acrylate TMP-A trimethylolpropane triacrylate 15, Irgacure 907 2.5, and 4,4'-bis(N,N-diethylamino)benzophenone 0.5 parts, applied on a glass substrate, dried, irradiated, and developed to give a test piece with good photosensitivity.

ST curable polymer compd photosensitive compn; branched alkyl contg acrylic polymer prepn

IT Acrylic polymers, uses

RL: TEM (Technical or engineered material use); USES (Uses) (branched; preparation of curable polymer compds. for photosensitive compns.)

IT Photoimaging materials

Photoresists  
 (preparation of curable polymer compds. for photosensitive compns.)

IT 26141-88-8P, Glycidyl methacrylate-methyl methacrylate copolymer  
 86249-19-6P, Benzyl methacrylate-glycidyl methacrylate copolymer  
 391675-16-4P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);

RACT (Reactant or reagent)  
 (intermediate in polymer acrylate preparation; preparation of curable polymer compds. for photosensitive compns.)

IT 79-10-7DP, Acrylic acid, reaction products with epoxy-containing acrylic polymers, carboxy-containing allyl compds., and tetrahydrophthalic anhydride,  
 polymers with triacrylates 85-43-8DP, Tetrahydrophthalic anhydride, reaction products with epoxy-containing acrylic polymers, acrylic acid, and carboxy-containing allyl compds., polymers with triacrylates

15625-89-5DP,  
 Light Acrylate TMP-A, polymers with allyl-containing branched acrylic polymers  
 26141-88-8DP, Glycidyl methacrylate-methyl methacrylate copolymer, reaction products with acrylic acid, carboxy-containing allyl compds., and tetrahydrophthalic anhydride, polymers with triacrylates  
 86249-19-6DP, Benzyl methacrylate-glycidyl methacrylate copolymer, reaction products with acrylic acid, carboxy-containing allyl compds., and tetrahydrophthalic anhydride, polymers with triacrylates 391675-16-4DP, reaction products with epoxy-containing acrylic polymers, acrylic acid, and tetrahydrophthalic anhydride, polymers with triacrylates

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of curable polymer compds. for photosensitive compns.)

IT 108-31-6, Maleic anhydride, reactions 111-45-5, Ethylene glycol monoallyl ether  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactant in monomer preparation; preparation of curable polymer compds. for photosensitive compns.)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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L4 ANSWER 10 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
 AN 2004:872885 CAPLUS  
 DN 141:372751  
 ED Entered STN: 21 Oct 2004  
 TI Composition for formation of underlayer film for lithography containing epoxy compound and carboxylic acid compound  
 IN Kishioka, Takahiro  
 PA Nissan Chemical Industries, Ltd., Japan  
 SO PCT Int. Appl., 43 pp.  
 CODEN: PIXXD2

10551130

DT Patent  
 LA Japanese  
 IC ICM G03F007-11  
 ICS C08G059-40; H01L021-027  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 76

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004090640	A1	20041021	WO 2004-JP4764	20040401
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1617289	A1	20060118	EP 2004-725145	20040401
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK,			
HR				
CN 1768306	A	20060503	CN 2004-80009217	20040401
CN 101550265	A	20091007	CN 2009-10134350	20040401
CN 101560323	A	20091021	CN 2009-10134351	20040401
US 20060234156	A1	20061019	US 2005-551130	20050929
PRAI				
JP 2003-99228	A	20030402		
CN 2004-80009217	A3	20040401		
WO 2004-JP4764	W	20040401		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2004090640	ICM	G03F007-11
	ICS	C08G059-40; H01L021-027
	IPCI	G03F0007-11 [ICM,7]; C08G0059-40 [ICS,7]; C08G0059-00 [ICS,7,C*]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	C08G0059-00 [I,C*]; C08G0059-40 [I,A]; G03F0007-09 [I,C*]; G03F0007-09 [I,A]; G03F0007-11 [I,C*]; G03F0007-11 [I,A]
EP 1617289	ECLA	C08G059/40; G03F007/09A; G03F007/11
	IPCI	G03F0007-11 [ICM,7]; C08G0059-40 [ICS,7]; C08G0059-00 [ICS,7,C*]; H01L0021-027 [ICS,7]; H01L0021-02 [ICS,7,C*]
	IPCR	C08G0059-00 [I,C*]; C08G0059-40 [I,A]; G03F0007-09 [I,C*]; G03F0007-09 [I,A]; G03F0007-11 [I,C*]; G03F0007-11 [I,A]
CN 1768306	ECLA	C08G059/40; G03F007/09A; G03F007/11
	IPCI	G03F0007-11 [I,A]; C08G0059-40 [I,A]; C08G0059-00 [I,C*]; H01L0021-027 [I,A]; H01L0021-02 [I,C*]
	IPCR	G03F0007-11 [I,C]; G03F0007-11 [I,A]; C08G0059-00



[I,C]; C08G0059-40 [I,A]; G03F0007-09 [I,C\*];  
G03F0007-09 [I,A]; H01L0021-02 [I,C]; H01L0021-027  
[I,A]  
CN 101550265 ECLA C08G059/40; G03F007/09A; G03F007/11  
IPCI C08L0063-00 [I,A]; G03F0007-11 [I,A]; H01L0021-027  
[I,A]; H01L0021-02 [I,C\*]  
CN 101560323 IPCI C08L0063-00 [I,A]; C08L0101-06 [I,A]; C08L0101-00  
[I,C\*]; C08G0059-40 [I,A]; C08G0059-00 [I,C\*];  
G03F0007-11 [I,A]; H01L0021-027 [I,A]; H01L0021-02  
[I,C\*]  
US 20060234156 IPCI G03C0001-00 [I,A]  
IPCR G03C0001-00 [I,C]; G03C0001-00 [I,A]; C08G0059-00  
[I,C\*]; C08G0059-40 [I,A]; G03F0007-09 [I,C\*];  
G03F0007-09 [I,A]; G03F0007-11 [I,C\*]; G03F0007-11  
[I,A]  
NCL 430/270.100; 430/271.100; 430/311.000; 430/330.000  
ECLA C08G059/40; G03F007/09A; G03F007/11  
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT  
AB A composition for formation of underlayer film for lithog. that is used  
in the lithog. process for producing semiconductor devices; and an underlayer  
film exhibiting a dry etching rate greater than in the use of  
photoresists. In particular, a composition for formation of underlayer  
film,  
capable of forming an underlayer film without the need to use a  
crosslinking reaction catalyzed by a strong acid, which composition  
comprises a  
component having epoxy group (polymeric compound or compound) and a  
component  
having phenolic hydroxyl group, carboxyl group, protected carboxyl group  
or acid anhydride structure (polymeric compound or compound).  
ST antireflection compn underlayer film photolithog photoresist epoxy  
carboxylic acid  
IT Antireflective films  
Photolithography  
Photoresists  
Semiconductor device fabrication  
(composition for formation of underlayer film for lithog. containing  
epoxy  
compound and carboxylic acid compound)  
IT 25067-05-4P, Glycidyl methacrylate homopolymer 86249-19-6P,  
Benzyl methacrylate-glycidyl methacrylate copolymer 155161-74-3P,  
Benzyl  
methacrylate-glycidyl methacrylate-methacrylic acid copolymer  
156623-56-2P, Benzyl methacrylate-glycidyl methacrylate-2-hydroxyethyl  
methacrylate copolymer  
RL: SPN (Synthetic preparation); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(composition for formation of underlayer film for lithog. containing  
epoxy  
compound and carboxylic acid compound)  
IT 2451-62-9, Tris(2,3-epoxypropyl)isocyanurate 2904-41-8,  
Tris(2-carboxyethyl)isocyanurate 9003-01-4, Poly(acrylic acid)  
RL: TEM (Technical or engineered material use); USES (Uses)  
(composition for formation of underlayer film for lithog. containing  
epoxy

compound and carboxylic acid compound)  
 OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)  
 UPOS.G Date last citing reference entered STN: 16 Feb 2009  
 OS.G CAPLUS 2006:734505

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (2) Arch Specialty Chemicals Inc; JP 2002539282 A 2002
- (3) Arch Specialty Chemicals Inc; US 6492092 B1 2002 CAPLUS
- (4) Clariant International Ltd; EP 1131678 A 2002 CAPLUS
- (5) Clariant International Ltd; CN 1330779 T 2002 CAPLUS
- (6) Clariant International Ltd; JP 2002530696 A 2002
- (7) Clariant International Ltd; US 6114085 A1 2002 CAPLUS
- (8) Fuji Photo Film Co Ltd; JP 10-120939 A 1998 CAPLUS
- (9) Fuji Photo Film Co Ltd; JP 10-333336 A 1998 CAPLUS
- (10) Hyundai Electronics Ind Co Ltd; CN 1300790 A 2001 CAPLUS
- (11) Hyundai Electronics Ind Co Ltd; JP 2001194799 A 2001 CAPLUS
- (12) Hyundai Electronics Ind Co Ltd; US 20020009595 A1 2001
- (13) Hyundai Electronics Ind Co Ltd; GB 2357512 A 2001 CAPLUS
- (14) Hyundai Electronics Ind Co Ltd; FR 2802934 A 2001 CAPLUS
- (15) Hyundai Electronics Industries Co Ltd; DE 10028345 A 2001 CAPLUS
- (16) Hyundai Electronics Industries Co Ltd; CN 1278529 A 2001 CAPLUS
- (17) Hyundai Electronics Industries Co Ltd; JP 200149231 A 2001
- (18) Hyundai Electronics Industries Co Ltd; GB 2351288 A 2001 CAPLUS
- (19) Hyundai Electronics Industries Co Ltd; FR 2795411 A 2001 CAPLUS
- (20) Hyundai Electronics Industries Co Ltd; US 6388039 B1 2001 CAPLUS
- (21) Japan Synthetic Rubber Co Ltd; JP 06-118656 A 1994 CAPLUS
- (22) Kabushiki Kaisha Hainikkusu Semiconductor; DE 10133716 A1 2002 CAPLUS
- (23) Kabushiki Kaisha Hainikkusu Semiconductor; DE 10133717 A1 2002 CAPLUS
- (24) Kabushiki Kaisha Hainikkusu Semiconductor; CN 1331254 A 2002 CAPLUS
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- (26) Kabushiki Kaisha Hainikkusu Semiconductor; US 20020093069 A1 2002
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- (32) Kabushiki Kaisha Hainikkusu Semiconductor; GB 2364315 A 2002 CAPLUS
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- (34) Tokyo Ohka Kogyo Co Ltd; JP 06-35201 A 1994 CAPLUS

L4 ANSWER 11 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2004:178255 CAPLUS

DN 140:219431

ED Entered STN: 04 Mar 2004

TI Epoxy resin compositions, solutions, and their films for protective films  
 of color filters of liquid-crystal displays

IN Murata, Yasutake; Sasaki, Takeaki; Fujishiro, Koichi

PA Nippon Steel Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02B005-20

ICS C08G059-24

CC 42-9 (Coatings, Inks, and Related Products)

Section cross-reference(s): 73, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004069930	A	20040304	JP 2002-227755	20020805
PRAI	JP 2002-227755		20020805		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2004069930	ICM	G02B005-20
	ICS	C08G059-24
	IPCI	G02B0005-20 [ICM,7]; C08G0059-24 [ICS,7]; C08G0059-00 [ICS,7,C*]
	IPCR	C08G0059-00 [I,C*]; C08G0059-24 [I,A]; G02B0005-20 [I,A]; G02B0005-20 [I,C*]
	FTERM	2H048/BB37; 2H048/BB42; 4J036/AA04; 4J036/AB02; 4J036/AD04; 4J036/AD12; 4J036/AE07; 4J036/AJ09; 4J036/AJ13; 4J036/AK11; 4J036/CA21; 4J036/DB15; 4J036/DB22; 4J036/DB23; 4J036/JA01

AB Title compns. comprise (A) epoxy resins containing (a) epoxy-containing acrylic copolymers with mol. weight 25,000-100,000 and epoxy equivalent 200-400 g/equiv 20-45, (b) fluorene-containing epoxy resins  $G[OAOCH_2CH(OH)CH_2]_nOAOG$  (G = glycidyl; A = fluorene derivative; n = 0-20) 15-40, (c) alicyclic epoxy resins having  $\geq 2$  epoxy groups 10-35, and (d) aliphatic epoxy resins 5-35%. Thus, a composition containing benzyl methacrylate-glycidyl methacrylate copolymer, ESF 300 (fluorene-type epoxy resin), Celloxide 2021P (alicyclic epoxy resin), ZX 1542 (trimethylolpropane triglycidyl ether), trimellitic anhydride, and SK 1 (blocked carboxylic acid) showed good storage stability and gave a heat-resistant coating with good surface smoothness.

ST fluorene acrylic epoxy coating color filter; heat resistance epoxy coating color filter; liq crystal display epoxy resin coating; storage stability fluorene acrylic epoxy coating

IT Epoxy resins, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic-, cardo; epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT Cardo polymers  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (acrylic-epoxy-; epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT Liquid crystal displays  
 Optical filters  
 (epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT Coating materials  
 (heat-resistant; epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT 42765-17-3, Trimethylolpropane triglycidyl ether homopolymer  
 RL: POF (Polymer in formulation); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (ZX 1542; epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT 666263-69-0P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT 25085-98-7, Celloxide 2021P 31256-79-8, ESF 300 86249-19-6, Benzyl methacrylate-glycidyl methacrylate copolymer  
 RL: POF (Polymer in formulation); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (epoxy resin compns. for heat-resistant protective films of color filters of LCD)

IT 552-30-7, Trimellitic anhydride 593-29-3, Nonsoul SK 1  
 RL: RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)  
 (epoxy resin compns. for heat-resistant protective films of color filters of LCD)

L4 ANSWER 12 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2000:855677 CAPLUS

DN 134:23519

ED Entered STN: 07 Dec 2000

TI Thermosetting anti-reflective coatings

IN Meador, Jim D.; Nowak, Kelly A.; Xu, Gu

PA Brewer Science, Inc., USA

SO U.S., 11 pp., Cont.-in-part of U.S. 5,919,599.

CODEN: USXXAM

DT Patent

LA English

IC ICM G03F007-004

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 38, 73

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6156479	A	20001205	US 1999-273881	19990322
US 5919599	A	19990706	US 1997-940169	19970930
CN 100362428	C	20080116	CN 1998-809390	19980928
TW 483917	B	20020421	TW 1998-87116151	19980929
TW 477796	B	20020301	TW 2000-89101156	20000125
WO 2000057247	A1	20000928	WO 2000-US7463	20000321
W: CA, CN, JP, KR, SG				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRAI US 1997-940169	A2	19970930		
US 1999-273881	A	19990322		

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

10551130

US 6156479	ICM	G03F007-004
	INCL	430270100
	IPCI	G03F0007-004 [ICM,7]
	IPCR	G03F0007-11 [I,C*]; G03F0007-11 [I,A]; C08F0008-00 [I,C*]; C08F0008-00 [I,A]; C08F0220-00 [I,C*]; C08F0220-32 [I,A]; C08F0283-00 [I,C*]; C08F0283-10 [I,A]; C09D0133-06 [I,C*]; C09D0133-06 [I,A]; G03F0007-09 [I,C*]; G03F0007-09 [I,A]
	NCL	430/270.100; 430/271.100
	ECLA	C08F008/00+20/00; C08F283/10; C09D133/06B+B4+C; G03F007/09A
US 5919599	IPCI	G03C0001-492 [ICM,6]; G03C0001-005 [ICM,6,C*]; C08K0063-00 [ICS,6]; C08F0283-10 [ICS,6]; C08F0283-00 [ICS,6,C*]
	IPCR	G03F0007-11 [I,C*]; G03F0007-11 [I,A]; C08F0008-00 [I,C*]; C08F0008-00 [I,A]; C08F0220-00 [I,C*]; C08F0220-32 [I,A]; C08F0283-00 [I,C*]; C08F0283-10 [I,A]; C09D0133-06 [I,C*]; C09D0133-06 [I,A]; G03F0007-09 [I,C*]; G03F0007-09 [I,A]
	NCL	430/271.100; 430/270.100; 430/512.000; 523/436.000; 525/523.000; 525/533.000
	ECLA	C08F008/00+20/00; C08F283/10; C09D133/06B+B4+C; G03F007/09A
CN 100362428	IPCI	G03C0001-005 [I,C]; G03C0001-492 [I,A]; G03C0001-815 [I,C]; G03C0001-815 [I,A]
	IPCR	G03C0001-005 [I,C]; G03C0001-492 [I,A]; G03F0007-11 [I,C*]; G03F0007-11 [I,A]; C08F0008-00 [I,C*]; C08F0008-00 [I,A]; C08F0220-00 [I,C*]; C08F0220-32 [I,A]; C08F0283-00 [I,C*]; C08F0283-10 [I,A]; C09D0133-06 [I,C*]; C09D0133-06 [I,A]; G03C0001-815 [I,C]; G03C0001-815 [I,A]; G03F0007-09 [I,C*]; G03F0007-09 [I,A]
	ECLA	C08F008/00+20/00; C08F283/10; C09D133/06B+B4+C; G03F007/09A
TW 483917	IPCI	C08L0033-08 [ICM,7]; C08L0033-00 [ICM,7,C*]
	IPCR	G03F0007-11 [I,C*]; G03F0007-11 [I,A]; C08F0008-00 [I,C*]; C08F0008-00 [I,A]; C08F0220-00 [I,C*]; C08F0220-32 [I,A]; C08F0283-00 [I,C*]; C08F0283-10 [I,A]; C09D0133-06 [I,C*]; C09D0133-06 [I,A]; G03F0007-09 [I,C*]; G03F0007-09 [I,A]
	ECLA	C08F008/00+20/00; C08F283/10; C09D133/06B+B4+C; G03F007/09A
TW 477796	IPCI	C08F0283-10 [ICM,7]; C08F0283-00 [ICM,7,C*]
	IPCR	C08F0283-00 [I,C*]; C08F0283-10 [I,A]
	ECLA	C08F283/10
WO 2000057247	IPCI	G03C0001-492 [ICM,7]; G03C0001-005 [ICM,7,C*]; C08K0063-00 [ICS,7]; C08F0283-10 [ICS,7]; C08F0283-00 [ICS,7,C*]
	IPCR	C08F0283-00 [I,C*]; C08F0283-10 [I,A]
	ECLA	C08F283/10

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB Anti-reflective coating comps. having improved etch rate, inter alia, are

prepared from certain acrylic polymers and copolymers, such as, glycidyl methacrylate reacted with non-polycyclic carboxylic acid dyes and

non-polycyclic phenolic dyes, all light absorbing at a wavelength of 193 nm.

ST thermosetting antireflective coating photoresist acrylic polymer

IT Photoresists  
(dye-attached acrylic polymer thermosetting anti-reflective coatings for)

IT Antireflective films  
(thermosetting anti-reflective coatings from dye-attached acrylic polymers)

IT 62-23-7DP, 4-Nitrobenzoic acid, reaction products with poly(glycidyl methacrylate) 65-85-0DP, Benzoic acid, reaction products with poly(glycidyl methacrylate), preparation 99-34-3DP, 3,5-Dinitrobenzoic acid, reaction products with poly(glycidyl methacrylate) 108-95-2DP, Phenol, reaction products with poly(glycidyl methacrylate), preparation 140-10-3DP, trans-Cinnamic acid, reaction products with poly(glycidyl methacrylate) 527-72-0DP, 2-Thiophenecarboxylic acid, reaction products with poly(glycidyl methacrylate) 610-30-0DP, 2,4-Dinitrobenzoic acid, reaction products with poly(glycidyl methacrylate) 3724-65-0DP,

Crotonic  
acid, reaction products with poly(glycidyl methacrylate) 16533-71-4DP, 3,5-Dinitro-p-toluic acid, reaction products with glycidyl methacrylate-2-hydroxy-3-phenoxypropyl acrylate copolymer 16533-71-4DP, 3,5-Dinitro-p-toluic acid, reaction products with poly(glycidyl methacrylate) 25067-05-4DP, Poly(glycidyl methacrylate), reaction products with benzoic acid 86249-19-6DP, Benzyl methacrylate-glycidyl methacrylate copolymer, reaction products with 2,4-dinitrobenzoic acid 297748-18-6DP, Glycidyl methacrylate-2-hydroxy-3-phenoxypropyl acrylate copolymer, reaction products with 3,5-dinitro-p-toluic acid

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting anti-reflective coatings from dye-attached acrylic polymers)

OSC.G 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (19 CITINGS)

UPOS.G Date last citing reference entered STN: 03 Jul 2009

OS.G CAPLUS 2007:484898; 2006:982616; 2005:450794; 2004:1080605; 2004:312306; 2004:252079; 2004:100632; 2003:1007488; 2003:532225; 2002:960608; 2002:814036; 2002:730510; 2002:368926; 2002:309856; 2002:241110; 2001:417272; 2000:806411

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE CITED REFERENCES

(1) Dexter; US 4544691 1985 CAPLUS

(2) Dichiaro; US 5482817 1996 CAPLUS

(3) Flaim; US 5693691 1997 CAPLUS

(4) Knors; US 5731385 1998 CAPLUS

L4 ANSWER 13 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1999:606042 CAPLUS

DN 132:195349

ED Entered STN: 24 Sep 1999

TI Molecular dynamics simulations of polymer-membrane/solvent interfaces

AU Schepers, Claudia; Hofmann, Dieter; Paul, Dieter

CS GKSS Research Center, Institute of Chemistry, Teltow, D - 14513, Germany

SO Scientific Computing in Chemical Engineering II: Computational Fluid Dynamics, Reaction Engineering, and Molecular Properties (1999), 134-142. Editor(s): Keil, Frerich. Publisher: Springer, Berlin, Germany. CODEN: 68ELAF

DT Conference

LA English

CC 38-2 (Plastics Fabrication and Uses)

AB Latest results from mol. dynamics simulations on pervaporation in the interfacial region between polymer and feed are reported. A binary organic mixture containing 80 % n-heptane and 20 % poly(Me Ph siloxane) (PMPHS) and selected poly(methacrylates) containing 6-membered rings, e.g., benzyl-, cyclohexylmethyl- (PcHMA), a-naphthylmethyl-, 9-anthrylmethyl-, and 2,4,6-tri-tert-Bu-benzyl esters of methacrylic acid were studied. While a solubility related enrichment factor of 2 for the benzene component was observed for PMPHS, all studied methacrylates sorbed preferentially the major component n-heptane. Although there was a fast diffusion observed in the case of PMPHS the selectivity is low in comparison to the PcHMA containing polymer membrane.

ST mol dynamics simulation polymethacrylate membrane solvent interface

IT Diffusion  
Membranes, nonbiological  
Molecular dynamics  
Pervaporation  
(mol. dynamics simulations of polymer-membrane/solvent interfaces)

IT Polymers, uses  
Polysiloxanes, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(mol. dynamics simulations of polymer-membrane/solvent interfaces)

IT 9005-12-3, Poly[oxy(methylphenylsilylene)] 29320-20-5 31230-04-3  
51960-29-3, Poly(9-anthrylmethyl methacrylate) 86249-19-6  
259794-99-5 259795-01-2  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(mol. dynamics simulations of polymer-membrane/solvent interfaces)

OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

UPOS.G Date last citing reference entered STN: 16 Feb 2009

OS.G CAPLUS 2000:578873

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE CITED REFERENCES

- (1) Fritz, L; Polymer 1997, V38, P1035 CAPLUS
- (2) Fritz, L; Polymer 1998, V39, P2531 CAPLUS
- (3) Hofmann, D; J Membr Sci 1998, V144, P145 CAPLUS
- (4) MSI; Discover Simulation Tools, Release 96.0 and 4.0.0, User Guide, [www.msi.com/doc/](http://www.msi.com/doc/) 1996
- (5) Marrink, S; J Phys Chem 1996, V100, P16729 CAPLUS
- (6) Mulder, M; Polymeric Gas Separation Membranes 1991
- (7) Theodorou, D; Macromolecules 1986, V10, P139

L4 ANSWER 14 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN

10551130

AN 1997:515447 CAPLUS  
 DN 127:123091  
 OREF 127:23/27a,23/30a  
 ED Entered STN: 14 Aug 1997  
 TI Polymeric dispersants, pigment dispersions and offset printing ink compositions  
 IN Iwase, Koji; Kinoshita, Hideki; Sato, Teruhisa; Ishikawa, Hiroyuki  
 PA Sakata Inx Corporation, Japan  
 SO Eur. Pat. Appl., 32 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM C09D017-00  
 ICS C09D011-02  
 CC 42-12 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 37

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 781820	A2	19970702	EP 1996-120596	19961220
	EP 781820	A3	19980107		
	EP 781820	B1	19990908		
	R: DE, ES, FR, GB				
	JP 09302259	A	19971125	JP 1996-243843	19960913
	JP 3396585	B2	20030414		
	ES 2135838	T3	19991101	ES 1996-120596	19961220
	CA 2193763	A1	19970626	CA 1996-2193763	19961223
	CA 2193763	C	20041123		
	PRAI	JP 1995-337383	A	19951225	
JP 1996-54944		A	19960312		
JP 1996-243843		A	19960913		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 781820	ICM	C09D017-00
	ICS	C09D011-02
	IPCI	C09D0017-00 [ICM,6]; C09D0011-02 [ICS,6]
	IPCR	B01F0017-52 [I,C*]; B01F0017-52 [I,A]; B01F0017-00 [I,C*]; B01F0017-00 [I,A]; C09B0067-00 [I,C*]; C09B0067-46 [I,A]; C09C0003-10 [I,C*]; C09C0003-10 [I,A]; C09D0011-00 [I,C*]; C09D0011-00 [I,A]; C09D0011-02 [I,C*]; C09D0011-02 [I,A]; C09D0011-10 [I,C*]; C09D0011-10 [I,A]; C09D0017-00 [I,C*]; C09D0017-00 [I,A]; C09D0161-00 [I,C*]; C09D0161-04 [I,A]; C09D0161-14 [I,A]
		B01F017/00K; C09B067/00P10B8; C09D011/02B; C09D017/00
		C09C0003-10 [ICM,6]; C09C0003-10 [ICS,6]; B01F0017-52 [ICS,6]; C09D0011-00 [ICS,6]; C09D0011-02 [ICS,6]; C09D0161-14 [ICS,6]; C09D0161-00 [ICS,6,C*]
		B01F0017-52 [I,C*]; B01F0017-52 [I,A]; B01F0017-00 [I,C*]; B01F0017-00 [I,A]; C09B0067-00 [I,C*]; C09B0067-46 [I,A]; C09C0003-10 [I,C*]; C09C0003-10 [I,A]; C09D0011-00 [I,C*]; C09D0011-00 [I,A]; C09D0011-02 [I,C*]; C09D0011-02 [I,A]; C09D0011-10 [I,C*]; C09D0011-10 [I,A]; C09D0017-00 [I,C*];
JP 09302259	ECLA	
	IPCI	
	IPCR	



C09D0017-00 [I,A]; C09D0161-00 [I,C\*]; C09D0161-04 [I,A]; C09D0161-14 [I,A]  
 ES 2135838 ECLA B01F017/00K; C09B067/00P10B8; C09D011/02B; C09D017/00  
 IPCI C09D0017-00 [ICM,6]; C09D0011-02 [ICS,6]  
 IPCR B01F0017-52 [I,C\*]; B01F0017-52 [I,A]; B01F0017-00 [I,C\*]; B01F0017-00 [I,A]; C09B0067-00 [I,C\*]; C09B0067-46 [I,A]; C09C0003-10 [I,C\*]; C09C0003-10 [I,A]; C09D0011-00 [I,C\*]; C09D0011-00 [I,A]; C09D0011-02 [I,C\*]; C09D0011-02 [I,A]; C09D0011-10 [I,C\*]; C09D0011-10 [I,A]; C09D0017-00 [I,C\*]; C09D0017-00 [I,A]; C09D0161-00 [I,C\*]; C09D0161-04 [I,A]; C09D0161-14 [I,A]  
 CA 2193763 ECLA B01F017/00K; C09B067/00P10B8; C09D011/02B; C09D017/00  
 IPCI C09D0017-00 [ICM,6]; C09D0011-02 [ICS,6]; C09D0007-02 [ICS,6]  
 IPCR B01F0017-52 [I,C\*]; B01F0017-52 [I,A]; B01F0017-00 [I,C\*]; B01F0017-00 [I,A]; C09B0067-00 [I,C\*]; C09B0067-46 [I,A]; C09C0003-10 [I,C\*]; C09C0003-10 [I,A]; C09D0011-00 [I,C\*]; C09D0011-00 [I,A]; C09D0011-02 [I,C\*]; C09D0011-02 [I,A]; C09D0011-10 [I,C\*]; C09D0011-10 [I,A]; C09D0017-00 [I,C\*]; C09D0017-00 [I,A]; C09D0161-00 [I,C\*]; C09D0161-04 [I,A]; C09D0161-14 [I,A]  
 AB ECLA B01F017/00K; C09B067/00P10B8; C09D011/02B; C09D017/00  
 A pigment dispersion is claimed comprising a pigment, a pigment dispersant, and, optionally, a binder resin. The pigment dispersion comprises, as pigment dispersant(s),  $\geq 0.2$  parts of a modified novolak resin (A) and/or a graft copolymer (B) relative to 100 parts of the pigment, (A) and (B) each having an aromatic ring and a ring structure given by ring opening of an epoxy group by a carboxyl group of a hydroxycarboxylic acid or their derivative Ink compns. for offset printing containing the pigment dispersion are also disclosed. A typical title composition was prepared by mixing and milling polyethylene wax and rosin-modified phenolic resin (Tespel 1355) varnish in a mixture of linseed oil and a com. solvent (Solvent Number 5) with an ink base containing Cu phthalocyanine pigment, reaction product of poly(12-hydroxystearic acid) with glycidyl methacrylate-styrene copolymer (preparation given) as pigment dispersant, Tespol 1355, linseed oil and Solvent Number 5.  
 ST offset printing ink compn pigment dispersant; pigment dispersant modified novolak resin prep; hydroxystearic acid polymer deriv prep dispersant; polyhydroxystearate glycidyl methacrylate ester macromer dispersant; styrene glycidyl methacrylate copolymer pigment dispersant  
 IT Polyesters, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (aliphatic, reaction products, with glycidyl Ph ether and phenol and formalin, dispersants; polymeric dispersants, pigment dispersions and offset printing ink compns.)  
 IT Phenolic resins, uses  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material

- use); PREP (Preparation); USES (Uses)  
(epoxy, reaction products, with poly(12-hydroxystearic acid),  
stearates, dispersants; polymeric dispersants, pigment dispersions and  
offset printing ink compns.)
- IT Inks  
(lithog.; pigment dispersion and offset printing ink composition  
containing  
modified novolak resins or polyesters as pigment dispersing agents)
- IT Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(modified with 12-hydroxystearic acid-glycidyl Ph ether reaction  
products, dispersants; polymeric dispersants, pigment dispersions and  
offset printing ink compns.)
- IT Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(novolak, reaction products, with 12-hydroxystearic acid-glycidyl Ph  
ether condensate, dispersants; polymeric dispersants, pigment  
dispersions and offset printing ink compns.)
- IT Epoxy resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(phenolic, reaction products, with poly(12-hydroxystearic acid),  
stearates, dispersants; polymeric dispersants, pigment dispersions and  
offset printing ink compns.)
- IT Dispersing agents  
Pigments, nonbiological  
(pigment dispersion and offset printing ink composition containing  
modified  
novolak resins or polyesters as pigment dispersing agents)
- IT Linseed oil  
RL: TEM (Technical or engineered material use); USES (Uses)  
(pigment dispersion and offset printing ink composition containing  
modified  
novolak resins or polyesters as pigment dispersing agents)
- IT 192709-74-3P, 12-Hydroxystearic acid-Styrene copolymer  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(dispersant; polymeric dispersants, pigment dispersions and offset  
printing ink compns.)
- IT 57-11-4DP, Octadecanoic acid, esters with Epikote 154 and  
poly(hydroxystearic acid), uses 64-19-7DP, Acetic acid, esters with  
Epikote 154 and poly(hydroxystearic acid), uses 101-90-6DP, Resorcinol  
diglycidyl ether, reaction products with phenol novolak resin  
106-14-9DP, 12-Hydroxystearic acid, reaction products with glycidyl Ph  
ether and phenol novolak resin 110-15-6DP, Butanedioic acid, esters  
with  
Epikote 154 and poly(hydroxystearic acid), uses 122-60-1DP, reaction  
products with 12-hydroxystearic acid and phenol novolak resin  
124-30-1DP, 1-Octadecanamine, amides with Epikote 154 and  
poly(hydroxystearic acid) 4223-14-7DP, reaction products with modified  
phenol novolak resin 9003-35-4DP, modified with 12-hydroxystearic  
acid-glycidyl Ph ether reaction products 15895-57-5DP, reaction  
products

with phenol novolak resin 25167-42-4DP, Glycidyl methacrylate-Styrene copolymer, reaction products with poly(hydroxystearic acid) 27924-99-8DP, 12-Hydroxystearic acid polymer, reaction products with glycidyl Ph ether and phenol novolak resin 27941-02-2DP, 12-Hydroxystearic acid polymer, sru, reaction products with epoxy-containing polymers 29564-58-7DP, Glycidyl methacrylate-Methyl methacrylate-Styrene copolymer, reaction products with poly(hydroxystearic acid) 52300-37-5DP, reaction products with modified phenol novolak resin 63939-13-9DP, Epikote 154, reaction products with poly(hydroxystearic acid), stearates 66251-30-7DP, Glycidyl methacrylate-Vinyltoluene copolymer, reaction products with poly(hydroxystearic acid) 67076-27-1DP, p-Chlorostyrene-Glycidyl methacrylate copolymer, reaction products with poly(hydroxystearic acid) 86249-19-6DP, Benzyl methacrylate-Glycidyl methacrylate copolymer, reaction products with poly(hydroxystearic acid) 94290-63-8DP, 2,3-Epoxy-2-methylpropyl methacrylate-Styrene copolymer, reaction products with poly(hydroxystearic acid) 192709-72-1DP, Dimethylstyrene-Glycidyl methacrylate copolymer, reaction products with poly(hydroxystearic acid) 192709-73-2P, 12-Hydroxystearic acid polymer glycidyl methacrylate ester-Styrene graft copolymer  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (dispersants; polymeric dispersants, pigment dispersions and offset printing ink compns.)

IT 147-14-8P, Copper phthalocyanine  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (pigment; polymeric dispersants, pigment dispersions and offset printing ink compns.)

IT 192828-15-2, Tespol 1355  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (varnish; polymeric dispersants, pigment dispersions and offset printing ink compns.)

OSC.G 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)  
 UPOS.G Date last citing reference entered STN: 16 Feb 2009  
 OS.G CAPLUS 2006:564323; 2002:978263; 2002:946378; 1999:726113

L4 ANSWER 15 OF 15 CAPLUS COPYRIGHT 2009 ACS on STN  
 AN 1987:41630 CAPLUS  
 DN 106:41630  
 OREF 106:6805a,6808a  
 ED Entered STN: 07 Feb 1987  
 TI Radiation-sensitive negative-working resists  
 IN Obara, Hidekatsu; Shimizu, Akihiro; Yokota, Akira; Nakane, Hisashi  
 PA Tokyo Ohka Kogyo Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM G03C001-71  
 ICS G03C005-08; G03F007-10  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other

10551130

Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61148445	A	19860707	JP 1984-270753	19841224
JP 06044153	B	19940608		
PRAI JP 1984-270753		19841224		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61148445	ICM	G03C001-71
	ICS	G03C005-08; G03F007-10
	IPCI	G03C0001-71 [ICM,4]; G03C0005-08 [ICS,4]; G03F0007-10 [ICS,4]
	IPCR	G03C0005-08 [I,C*]; G03C0005-08 [I,A]; G03F0007-038 [I,C*]; G03F0007-038 [I,A]; G03F0007-20 [I,C*]; G03F0007-20 [I,A]; H01L0021-02 [I,C*]; H01L0021-027 [I,A]
	ECLA	G03F007/038

AB The resists having firm bonding to substrates and especially high resistance to dry etching are composed of a polymer or a copolymer having repeating units -H2CCRR1- (R = H, Me; R1 = OCOR2, COOR2, COOCH2R2; R2 = haloalkyl-substituted Ph). Thus, poly(vinyl benzoate) was prepared by polymerization of 100 g vinyl benzoate with AIBN. The obtained polymer

was chloromethylated using chloromethyl ether and AlCl3. The obtained polymer contained 58 mol% chloromethyl group and its solution (of 10 g) was applied on a pattern-etched Si substrate deposited with a 0.5-μ Al layer and then dried to obtain a 1-μ layer. Exposure to UV through a quartz pattern mask and development in a Me Cellosolve-isoamyl acetate mixture followed by rinsing with iso-PrOH gave a 0.5-μ line pattern, which was postbaked at 140°. Dry etching in a CCl4-He mixture rapidly etched the Al layer but did not affect the resist layer. Reetching in O2 removed the resist layer to obtain a 0.5-μ Al pattern with steps on the surface.

ST neg photoresist dry etching resistant; halomethylated polymer photoresist etching resistant; lithog neg photoresist etch resistant

IT Resists (photo-, neg.-working, dry etching-resistant, halomethylated polymers as)

IT 24991-32-0D, Poly(vinyl benzoate), chloromethylated 26838-25-5D, Benzyl methacrylate-methyl methacrylate copolymer, chloromethylated 86249-19-6D, chloromethylated 106143-11-7D, bromoethylated RL: USES (Uses) (lithog. photoresist, neg.-working, dry etching-resistant)

=> d his

(FILE 'HOME' ENTERED AT 16:42:14 ON 01 DEC 2009)

10551130

L1 FILE 'CAPLUS' ENTERED AT 16:42:28 ON 01 DEC 2009  
1 S JP58048048/PN

L2 FILE 'REGISTRY' ENTERED AT 16:43:24 ON 01 DEC 2009  
1 S 86249-19-6/RN  
SET NOTICE 1 DISPLAY  
SET NOTICE LOGIN DISPLAY

L3 FILE 'CAPLUS' ENTERED AT 16:43:41 ON 01 DEC 2009  
16 S L2  
L4 15 S L3 NOT L1

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	51.20	60.57

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-12.30	-13.12

STN INTERNATIONAL LOGOFF AT 16:44:25 ON 01 DEC 2009